

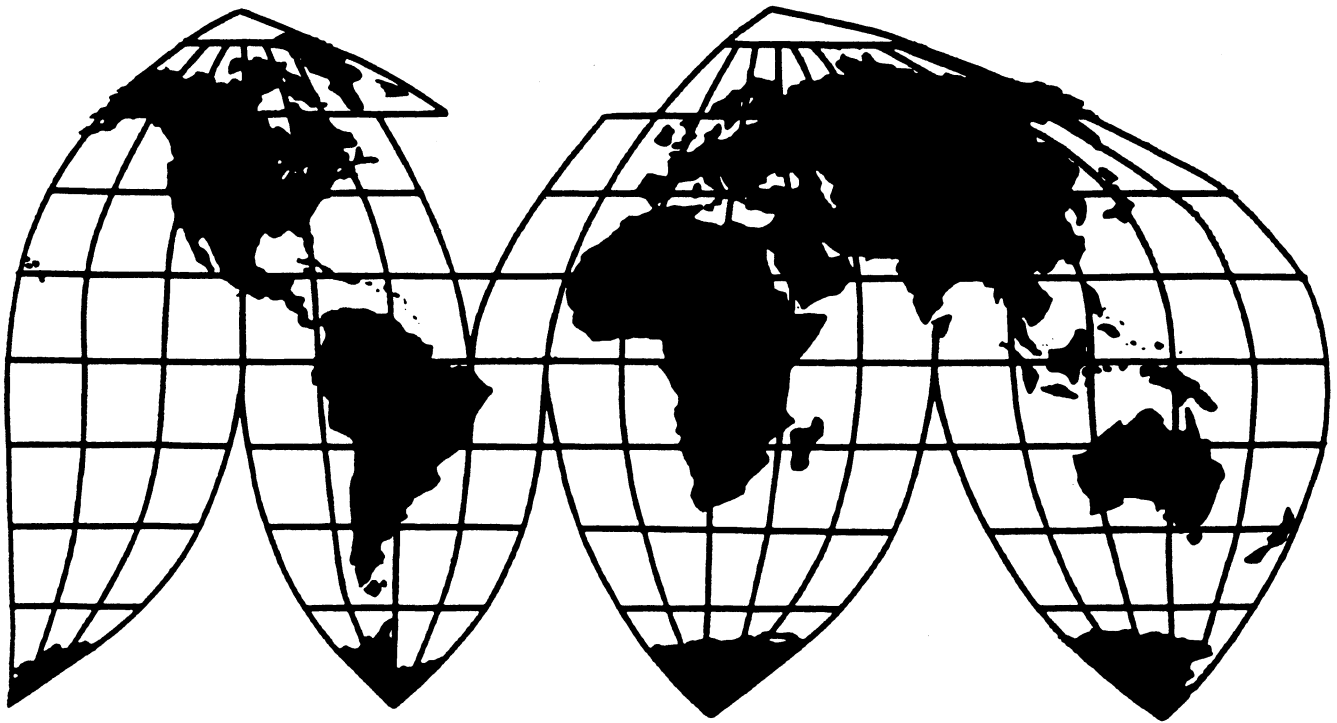
Aramid Fiber Formed of Poly Para-Phenylene Terephthalamide From the Netherlands

Investigation No. 731-TA-652 (Final)

Publication 2783

June 1994

U.S. International Trade Commission



U.S. International Trade Commission

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Note.--Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted from this report. Such deletions are indicated by asterisks.

PART I
DETERMINATION AND VIEWS OF THE COMMISSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation No. 731-TA-652 (Final)

ARAMID FIBER FORMED OF POLY PARA-PHENYLENE TEREPHTHALAMIDE FROM THE NETHERLANDS

Determination

On the basis of the record¹ developed in the subject investigation, the Commission determines,² pursuant to section 735(b) of the Tariff Act of 1930 (19 U.S.C. § 1673d(b)) (the Act), that an industry in the United States is materially injured by reason of imports from the Netherlands of aramid fiber formed of poly para-phenylene terephthalamide (PPD-T aramid fiber),³ provided for in subheadings 5402.10.30, 5402.32.30, 5503.10.00, and 5601.30.00 of the Harmonized Tariff Schedule of the United States, that have been found by the Department of Commerce to be sold in the United States at less than fair value (LTFV).

Background

The Commission instituted this investigation effective December 14, 1993, following a preliminary determination by the Department of Commerce that imports of PPD-T aramid fiber from the Netherlands were being sold at LTFV within the meaning of section 733(b) of the Act (19 U.S.C. § 1673b(b)). Notice of the institution of the Commission's investigation and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* of January 20, 1994 (59 F.R. 3122). The hearing was held in Washington, DC, on May 5, 1994, and all persons who requested the opportunity were permitted to appear in person or by counsel.

¹ The record is defined in sec. 207.2(f) of the Commission's Rules of Practice and Procedure (19 CFR § 207.2(f)).

² Commissioner Bragg did not participate in the determination in this investigation.

³ The imported merchandise which is the subject of Commerce's investigation is all forms of PPD-T aramid fiber from the Netherlands. This consists of PPD-T aramid fiber in the form of filament yarn (including single and corded), staple fiber, pulp (wet or dry), spunlaced and spunbonded nonwovens, chopped fiber, and floc.

VIEWS OF THE COMMISSION

Based on the record in this final investigation, we unanimously determine that the industry in the United States producing aramid fiber formed of poly para-phenylene terephthalamide ("PPD-T aramid fiber") is materially injured by reason of imports of the subject merchandise from the Netherlands that the U.S. Department of Commerce ("Commerce") has determined are being sold in the United States at less than fair value (LTFV).^{1 2}

I. LIKE PRODUCT

A. In General

In determining whether an industry in the United States is materially injured or threatened with material injury by reason of the subject imports, the Commission must first define the "like product" and the "industry." Section 771(4)(A) of the Tariff Act of 1930 ("the Act") defines the relevant industry as the "domestic producers as a whole of a like product, or those producers whose collective output of the like product constitutes a major proportion of the total domestic production of that product. . ."³ In turn, the Act defines "like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation. . ."⁴

The Commission's like product determinations are factual, and the Commission applies the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis.⁵ No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of the particular investigation.⁶ Generally, the Commission requires "clear dividing lines among possible like products" and disregards minor variations.⁷

B. The Issues in this Investigation

The imported articles subject to investigation are forms of PPD-T aramid fiber from the Netherlands. PPD-T aramid fiber is a high-performance synthetic fiber that is distinguished from other fibers by its chemical composition, specific properties, method of

¹ 19 U.S.C. § 1673d(b). Whether the establishment of an industry in the United States is materially retarded is not an issue in this investigation.

² Commissioner Bragg did not participate in the determination of this investigation.

³ 19 U.S.C. § 1677(4)(A).

⁴ 19 U.S.C. § 1677(10).

⁵ Torrington Co. v. United States, 747 F. Supp. 744, 748-749 (CIT), *aff'd* 938 F.2d 1278 (Fed. Cir. 1991). In analyzing like product issues, the Commission considers a number of factors including: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer or producer perceptions of the products; (5) common manufacturing facilities and production employees; and (6) where appropriate, price. Calabrian Corp. v. United States, 794 F. Supp. 377, 382 n.4 (CIT 1992).

⁶ See S. Rep. No. 249, 96th Cong., 1st Sess. 90-91 (1979); Torrington, 747 F. Supp. at 748-749.

⁷ Torrington, 747 F. Supp. at 748-49.

production, and range of end uses.⁸ Commerce's scope determination stated that "all" forms of PPD-T aramid fiber except tire cord fabric are subject to investigation.⁹

The principal like product issue in this investigation concerns whether particular forms of PPD-T aramid fiber subject to investigation constitute separate like products. Petitioner E. I. Du Pont de Nemours & Co. ("Du Pont") argues that all forms of PPD-T aramid fiber should be treated as a single like product. Respondents Aramide Mattschappij V.O.F. and Akzo Fibers, Inc. (jointly "Akzo"), respectively the sole Netherlands producer and sole importer of the merchandise under investigation, contend that there are four separate like products -- yarn, staple fiber, pulp, and nonwovens -- corresponding to different forms of PPD-T aramid fiber.

In our preliminary determination, we found that all forms of PPD-T aramid fiber like those subject to investigation constituted a single like product. We stated, however, that we would revisit the issue in any final investigation.¹⁰ In this final investigation, we conclude again that all PPD-T aramid fiber constitutes a single like product.

All forms of PPD-T aramid fiber at issue have certain physical and structural similarities, insofar as they are produced from the same raw materials and have the same chemical composition.¹¹ The processing steps that convert PPD-T aramid yarn into staple, pulp, or nonwovens also do not change the molecular organization of the material.¹² It is not disputed that there are physical differences among the various forms of PPD-T aramid fiber, and that, because of these physical differences, different forms of PPD-T aramid fiber are often more appropriate for specific end-use applications.¹³ Nevertheless, physical differences also exist within some of the four product forms that Akzo identifies as separate like products.¹⁴

Notwithstanding these differences, we believe that it is significant that functions of PPD-T aramid fiber products frequently overlap among fiber forms and across applications. Information submitted by the parties indicates that PPD-T aramid fiber products in the forms of yarn, pulp, and staple are all used to deliver strength in their end-use applications. Products in the form of pulp, staple, and nonwovens are all used to impart thermal stability or insulation.¹⁵ Indeed, Akzo's expert witness conceded at the hearing that regardless of form, "the basic characteristics of aramid are rather striking."¹⁶

⁸ Confidential Report ("CR") at I-7-8, Public Report ("PR") at II-5.

⁹ 58 Fed. Reg. 23684, 23685 (May 6, 1994) ("These [articles subject to investigation] consist of PPD-T aramid in the form of filament yarn (including single and corded), staple fiber, pulp (wet or dry), spun-laced and spun-based nonwovens, chopped fiber and floc.").

¹⁰ Aramid Fiber Formed of Poly Para-Phenylene Terephthalamide from the Netherlands, Inv. No. 731-TA-652 (Preliminary), USITC Pub. 2672 at 8-11 (August 1993) ("Preliminary Determination").

¹¹ CR at I-9, PR at II-6. See Tr. at 147 (Fornes).

¹² See Du Pont Posthearing Brief, ex. 1 at 1-2, appendix (first aff.).

¹³ Yarns, because of their ability to absorb energy, tend to be used in applications requiring reinforcement in a single direction. See Tr. at 154 (Bivens); Du Pont Posthearing Brief, ex. 1 at 3 (first aff.); CR at I-8, PR at II-5. Staple, which is shorter than yarn and has "softer," more textile-like qualities, is commonly used to make fabric for specialty and protective apparel. See CR at I-8, PR at II-6; Tr. at 150-51 (Fornes), 154-55 (Bivens); Du Pont Posthearing Brief, ex. 1 at 3 (first aff.). Pulp has greater surface area and a rougher surface than other forms; it is generally used for friction and gasket products. See CR at I-9, PR at II-6; Tr. at 152 (Fornes), 155 (Bivens); Du Pont Posthearing Brief, ex. 1 at 3 (first aff.). Nonwovens, which are distinguished by their flat, cloth-like structures, are used for heat insulation and flame resistance in protective apparel. See CR at I-13, B-7, PR at II-8, B-7; Tr. at 155 (Bivens).

¹⁴ See Du Pont Posthearing Brief, ex. 1 at 1-2 (first aff.) (differences among yarns); CR at I-19, PR at II-10 (differences among types of staple and pulp).

¹⁵ See CR at B-3-10, PR at B-3-8; Du Pont Posthearing Brief, ex. 1 at 2 (first aff.).

¹⁶ Tr. at 177 (Fornes).

The record indicates that there is little interchangeability among the various forms of PPD-T aramid fiber. Du Pont itself acknowledges that, after a customer chooses to use a particular form of aramid fiber in its product, it is difficult for the customer to choose another form of PPD-T aramid fiber or switch between fiber forms.¹⁷ Indeed, the overwhelming majority of purchasers surveyed by Commission staff to supplement their questionnaire responses stated that they could not use more than one fiber type for their end-use applications.¹⁸ These same purchasers further indicated, however, that interchangeability is also limited within individual aramid fiber forms.¹⁹

Channels of distribution tend to be the same for all forms of PPD-T aramid fiber inasmuch as each form is sold directly by the manufacturer to the end-user.²⁰ Du Pont, the sole marketer of U.S.-produced PPD-T aramid fiber products, states that it uses a single marketing and sales organization for all four forms of PPD-T aramid fiber, and that this sales force offers all product forms to customers in their markets.²¹

All forms of PPD-T aramid fiber go through the production process used to manufacture aramid yarn.²² Staple, pulp, and nonwovens go through additional production steps. The further processing needed to produce staple and pulp from aramid yarn is performed in the United States by Du Pont subcontractors at facilities distinct from the one in which Du Pont produces the yarn.²³ However, production workers who produce PPD-T aramid yarn constitute a substantial majority of all PPD-T aramid fiber production workers in the United States.²⁴ Although further processing is not de minimis, yarn accounts for the majority, and sometimes the substantial majority, of the total value of staple, pulp, and nonwoven products.²⁵

As previously stated, Du Pont maintains a single marketing operation for the various forms of aramid fiber that it sells in the United States. It markets its various aramid products under a single proprietary name -- KEVLAR.²⁶ We believe that these organizational and marketing practices generally support the conclusion that the U.S. producer perceives aramid fiber to be a single product.²⁷

PPD-T aramid fiber is priced primarily according to the end-use market in which it is sold, with pricing generally depending on the importance of aramid fiber to the specific end-use project and the availability of substitute products.²⁸ Consequently, the same form of

¹⁷ See Tr. at 70; Du Pont Posthearing Brief, Ex. 1 (second aff.).

¹⁸ CR at I-71, PR at II-30; see also Akzo Prehearing Brief, apps. B, C, D, E, I (purchaser declarations submitted by Akzo, in which four end-users of aramid yarn and one end-user of aramid pulp state that they cannot use other forms of aramid fiber).

¹⁹ CR at I-71, PR at II-30; see also CR at I-13, I-68, PR at II-8, II-29 (noting that certain types of aramid yarn and pulp have specialized applications); Du Pont Posthearing Brief, ex. 1 at 3 (first aff.) (noting lack of interchangeability of certain types of yarn made by Du Pont).

²⁰ CR at I-30, PR at II-16.

²¹ Du Pont Posthearing Brief, ex. 1 (second aff.); Tr. at 25-26 (Keogh).

²² CR at I-19-20, PR at II-10.

²³ See CR at I-25, PR at II-14. Additionally, wet and dry pulp are currently produced at separate facilities. Id.

²⁴ CR at I-38 n.75, I-39; PR at II-19.

²⁵ Further processing from yarn accounts for *** percent of the total value of staple, *** percent of pulp, and *** percent of nonwovens. Figure 2, CR at I-27, PR at II-15.

²⁶ See CR at I-9-10, PR at II-6.

²⁷ Although Akzo contends that customers perceive different forms of aramid to be different products, the customer declarations it has submitted to support this contention are at best ambiguous. Some of the declarations refer to "aramid fiber" as a type of product, and discuss the merits of "aramid fiber" (as opposed to, for example, "aramid yarn" or "aramid staple") vis a vis other types of fibers. See Akzo Prehearing Brief, apps. B, E.

²⁸ CR at I-64, PR at II-28.

aramid fiber may be sold to different customers at widely varying prices.²⁹ We found in our preliminary determination that this characteristic rendered pricing data to be unmeaningful for evaluating like product treatment for PPD-T aramid fiber.³⁰ We do not believe that there are any considerations supporting a different conclusion in this final investigation.

C. Conclusion

We conclude that PPD-T aramid fiber should be treated as a single like product in light of the generally common physical characteristics and product qualities that distinguish aramid fiber from other fibers, common channels of distribution, largely common production employees, and producer perceptions of PPD-T aramid fiber as a single product. Although there are differences among the various forms of aramid fiber, these are less significant than the common product characteristics shared by all forms. Moreover, the characteristics that Akzo contends distinguish the various forms of aramid fiber from each other -- namely unique end-uses and lack of interchangeability -- also distinguish products within these forms. We therefore determine that the common characteristics shared by all forms of PPD-T aramid fiber warrant treating PPD-T aramid fiber as a single like product.³¹

II. DOMESTIC INDUSTRY

Section 771(4)(A) of the Tariff Act of 1930 defines the relevant domestic industry as the "domestic producers as a whole of a like product, or those producers whose collective output of the like product constitutes a major proportion of the total domestic production of that product."³² The Commission's general practice has been to include all domestic production, whether toll-produced, captively consumed, or sold in the open market, in

²⁹ See, e.g., Figures 7, 14, CR at I-79, I-82, PR at II-33-34.

³⁰ Preliminary Determination, USITC Pub. 2672 at 11.

³¹ In the preliminary determination, we stated that we would consider the appropriateness of a vertical, or "semifinished product," like product analysis in the final investigation. Preliminary Determination, USITC Pub. 2672 at 8 n.13. In such an analysis, we examine: (1) whether the upstream article is dedicated to the production of the downstream article or has independent uses; (2) whether there are perceived to be separate markets for the upstream and downstream articles; (3) differences in the physical characteristics and functions of the upstream and downstream articles; (4) differences in the costs or value of the vertically differentiated articles; and (5) significance and extent of the processes used to transform the upstream into the downstream articles. Silicon Carbide from China, Inv. No. 731-TA-651 (Final), USITC Pub. 2779 (June 1994); Stainless Steel Bar from Brazil, India, Italy, Japan, and Spain, Invs. Nos. 731-TA-678-682 (Preliminary), USITC Pub. 2734 at I-12 (Feb. 1994).

As the discussion above indicates, we have relied principally on a traditional like product analysis in this investigation. Nevertheless, the like product issues here are also amenable to a vertical analysis because the PPD-T aramid fiber production process can be viewed as a continuum with aramid yarn representing the least processed form of the product, aramid staple representing an intermediate stage of processing, and aramid pulp and nonwovens representing the final stage of processing. Under such an analysis, we would also determine that PPD-T aramid fiber is a single like product. As explained above, all forms of PPD-T aramid fiber have similar product qualities and further processing does not substantially change or modify these qualities. Additionally, there do not appear to be "independent markets" for the various forms of aramid fiber, inasmuch as those forms of PPD-T aramid fiber that are subject to further processing are not purchased by the processors in open, competitive markets. Instead, all processing not performed directly by Du Pont is performed by subcontractors of that company pursuant to toll agreements. See CR at I-25-28, PR at II-13-15.

Commissioner Rohr notes that he applied a vertical analysis and made the determination described herein.

³² 19 U.S.C. § 1677(4)(A).

establishing the scope of the domestic industry.³³ The sole domestic industry issue in this investigation concerns whether the pertinent domestic industry encompasses the companies that process staple and pulp from spun PPD-T aramid yarn pursuant to contractual agreements with Du Pont.

In deciding whether a firm qualifies as a domestic producer, the Commission has often analyzed the overall nature of a firm's production-related activities in the United States.³⁴ In this final investigation, we did compile information concerning capital investment and employment levels of the Du Pont subcontractors. This information, which is proprietary, indicates sufficient levels of activity by the subcontractors to constitute domestic production.³⁵ The record also indicates that pulp and staple production require specialized equipment and some degree of technical expertise.³⁶ Further, the value added by the further processing activities is not de minimis.³⁷ Moreover, because Du Pont maintains ownership of the product while it is undergoing further processing,³⁸ the subcontractors function as toll producers. The Commission has generally considered toll producers that engage in sufficient production-related activity to be part of the domestic industry.³⁹ We consequently include the Du Pont subcontractors in the domestic industry producing PPD-T aramid fiber.

III. CONDITION OF THE DOMESTIC INDUSTRY

In assessing whether the domestic industry is materially injured by reason of LTFV imports, we consider all relevant economic factors which have a bearing on the state of the industry in the United States. These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, profits, cash flow, return on investment, ability to raise capital, and research and development. No single factor is determinative, and we consider all relevant factors "within the context of the business cycle

³³ See 19 U.S.C. § 1677(4)(A); Fresh Garlic from China, Inv. No. 731-TA-683 (Preliminary), USITC Pub. 2755 at I-10 (March 1994); Certain Flat-Rolled Carbon Steel Products, Invs. Nos. 701-TA-319 et seq., 731-TA-573 et seq., (Final), USITC Pub. 2664 at 17 (Aug. 1993).

³⁴ The Commission has examined six specific factors in this regard: (1) the extent and source of a firm's capital investment; (2) the technical expertise involved in U.S. production activity; (3) the value added to the product in the United States; (4) employment levels; (5) the quantities and types of parts sourced in the United States; and (6) any other costs and activities in the United States leading to production of the like product, including where production decisions are made. Certain Cased Pencils from the People's Republic of China and Thailand, Invs. Nos. 731-TA-669-670 (Preliminary), USITC Pub. 2713 at I-8 n.27 (Dec. 1993); Class 150 Stainless Steel Threaded Pipe Fittings from Taiwan, Inv. No. 731-TA-658 (Preliminary), USITC Pub. 2678 at 13 (Sept. 1993). The Commission has emphasized that no single factor -- including value added -- is determinative and that value added information becomes more meaningful when other production activity indicia are taken into account. See, e.g., Compact Ductile Iron Waterworks Fittings and Parts Thereof from the People's Republic of China, Inv. No. 731-TA-621 (Final), USITC Pub. 2671 at 23 (Aug. 1993); Color Television Receivers from the Republic of Korea and Taiwan, Invs. Nos. 731-TA-134-135 (Final), USITC Pub. 1514 at 7-8 (May 1984). It also has stated that it will consider any other factors it deems relevant in light of the specific facts of any investigation. Erasable Programmable Read Only Memories from Japan, Inv. No. 731-TA-288 (Final), USITC Pub. 1927 (Dec. 1986).

³⁵ See Tables E-1 through E-4, CR at E-3-6, PR at E-3.

³⁶ See CR at I-19, PR at II-10; Du Pont Posthearing Brief, Part II, at 49-50.

³⁷ Figure 2, CR at I-27, PR at II-15.

³⁸ CR at I-26, PR at II-14.

³⁹ See Stainless Steel Wire Rod from Brazil and France, Invs. Nos. 731-TA-636-637 (Final), USITC Pub. 2721 at I-9 (Jan. 1994); Certain Brass Sheet and Strip from France, Italy, Sweden, and West Germany, Invs. Nos. 701-TA-270, 731-TA-313, 314, 316, and 317 (Final), USITC Pub. 1951 at A-56 (Feb. 1987).

and conditions of competition that are distinctive to the affected industry."⁴⁰ In evaluating the condition of the domestic industry, we look at the domestic industry as a whole.⁴¹

A number of distinctive conditions of competition exist for the PPD-T aramid fiber industry. First, most applications that utilize PPD-T aramid fiber involve highly-specialized products that have been engineered around the characteristics of the fiber.⁴² The domestic producer of PPD-T aramid fiber devotes substantial effort in trying to develop, either by itself or in conjunction with end-users, new applications for the product.⁴³ As a result, the industry must engage in continued research and development to be viable.

Additionally, both Du Pont and Akzo witnesses agreed that the production process for the manufacture of PPD-T aramid fiber is sophisticated, involving significant capital costs.⁴⁴ Moreover, before any producer can sell an aramid fiber product commercially, it must "qualify" the product with end-users. Qualification can be a long and costly process.⁴⁵ The difficulty and expense of establishing production facilities and qualifying products serve as strong disincentives to new industry participants entering the market.⁴⁶

Apparent U.S. consumption of PPD-T aramid fiber declined irregularly in both quantity and value over the period of investigation, encompassing calendar years 1991 through 1993.⁴⁷ U.S. producers' domestic shipments, however, declined throughout the period of investigation, with *** of the decline occurring from 1991 to 1992.⁴⁸ The percentage of domestic consumption accounted for by U.S. producers' shipments, as measured by quantity, declined from *** percent in 1991 to *** percent in 1992 and *** percent in 1993.⁴⁹

U.S. production capacity increased *** during the period of investigation.⁵⁰ Because production declined during this period, however, capacity utilization fell from 1991 to 1993, notwithstanding a *** increase from 1992 to 1993.⁵¹

⁴⁰ 19 U.S.C. § 1677(7)(C)(iii).

⁴¹ See, e.g., Welded Stainless Steel Pipe from Malaysia, Inv. No. 731-TA-644 (Preliminary), USITC Pub. 2620 at 19-20 & n.79 (Apr. 1993) ("The Commission may take into account the departures from an industry or the unique circumstances of individual companies, but ultimately must assess the condition of the industry as a whole, and not on a company-by-company basis."), citing Metallwerken Nederland B.V. v. United States, 728 F. Supp. 730, 735 (CIT 1989).

⁴² CR at I-16, PR at II-9; Tr. at 26-27 (Keogh).

⁴³ See Du Pont Posthearing Brief, part II at 8-14; Tr. at 42-43 (Sheffman).

⁴⁴ See Tr. at 40 (Sheffman), 193 (Bivens).

⁴⁵ CR at I-66-67, PR at II-29.

⁴⁶ As an Akzo witness explained: "There is a good reason that there are only two aramid fiber producers. It is a very expensive process." Tr. at 193 (Bivens).

⁴⁷ The quantity of U.S. consumption decreased by *** percent from 1991 to 1992 and increased by *** percent from 1992 to 1993. The value of U.S. consumption decreased by *** percent from 1991 to 1992 and increased by *** percent from 1992 to 1993. Table C-1, CR at C-3, PR at C-3.

⁴⁸ The quantity of U.S. producers' domestic shipments declined by *** percent from 1991 to 1993, and the value of U.S. producers' domestic shipments declined by *** percent during this period. Table C-1, CR at C-3, PR at C-3.

We note that the shipment data provided by both Akzo and Du Pont ***. CR at I-35, I-57, PR at II-18, II-26. Nevertheless, Akzo's and Du Pont's questionnaire data, which were verified by Commission staff, constitute the best information available concerning these factors.

Although we have determined that the subcontractors are members of the domestic industry, we use Du Pont data as the industrywide data for production-related indicators. Du Pont is the only marketer of domestically-produced PPD-T aramid fiber products, and to aggregate Du Pont production-related data with those of the subcontractors would result in double or triple counting.

⁴⁹ Table C-1, CR at C-3, PR at C-3.

⁵⁰ The increase was *** percent, and occurred ***. Table C-1, CR at C-3, PR at C-3.

⁵¹ Capacity utilization was *** percent in 1991, *** percent in 1992, and *** percent in 1993. Table C-1, CR at C-3, PR at C-3.

Inventories declined throughout the period of investigation. There was a decline in both absolute inventory levels and in the ratio of inventories to shipments.⁵²

Employment-related indicators for domestic PPD-T aramid fiber producers were negative. The number of production employees, total hours worked, and total compensation paid to those workers declined during each year of the period of investigation.⁵³

The domestic industry showed positive operating income throughout the period of investigation. Operating income margins, however, declined from *** percent of net sales in 1991 to *** percent in 1992, before recovering *** to *** percent in 1993.⁵⁴ Nearly the entire increase in industry profitability from 1992 to 1993 is attributable to ***.⁵⁵ ***.⁵⁶ Additionally, Du Pont's research and development expenses, ***, declined by *** percent from 1992 to 1993.⁵⁷ ***.⁵⁸ ***.

The domestic industry's capital expenses also declined throughout the period of investigation.⁵⁹ For Du Pont, which was responsible for ***, capital expenses declined by *** percent from 1991 to 1992 and by *** percent from 1992 to 1993.⁶⁰ ⁶¹

IV. MATERIAL INJURY BY REASON OF LTFV IMPORTS

The statute directs the Commission, in determining whether the domestic industry is materially injured by reason of LTFV imports, to consider the volume of imports of the merchandise which is the subject of an investigation, their effect on prices in the United States for like products, and their impact on domestic producers of the like product, but only in the context of U.S. production operations.⁶² Although the Commission may consider causes of injury other than LTFV imports, it is not to weigh causes.⁶³ ⁶⁴ ⁶⁵ Finally, the

⁵² Inventory levels declined by *** percent from 1991 to 1993. The ratio of inventories to shipments declined from *** in 1991 to *** in 1993. Table C-1, CR at C-3, PR at C-3.

⁵³ From 1991 to 1993, the number of production employees of Du Pont and its subcontractors declined by *** percent, hours worked declined by *** percent, and total compensation declined by *** percent. CR at I-38 n.75 (revised version), PR at II-19 n.75.

⁵⁴ Table 7, CR at I-41 (revised version), PR at II-20. These data reflect the combined financial experience of Du Pont and the subcontractors. ***. *Id.*

⁵⁵ Compare Table 7, CR at I-41, PR at II-20 with Tables E-1 through E-4, CR at E-3-6, PR at E-3.

⁵⁶ Table 9, CR at I-43, PR at II-20.

⁵⁷ Table 10, CR at I-44, PR at II-20.

⁵⁸ See Tables 7, 10, CR at I-41, I-44, PR at II-20.

⁵⁹ Tables 12 and E-1 through E-4, CR at I-49, E-3-6, PR at II-22, E-3.

⁶⁰ Table 12, CR at I-49, PR at II-22.

⁶¹ Based on the foregoing, Chairman Newquist and Commissioner Rohr determine that the domestic industry is experiencing material injury.

⁶² 19 U.S.C. § 1677(7)(B)(i).

⁶³ See, e.g., *Citrosuco Paulista, S.A. v. United States*, 704 F. Supp. 1075, 1101 (CIT 1988).

Chairman Newquist, Commissioner Rohr, and Commissioner Nuzum further note that the Commission need not determine that imports are "the principal, a substantial, or a significant cause of material injury." S. Rep. No. 249, at 57, 74. Rather, a finding that imports are a cause of material injury is sufficient. See, e.g., *Metallverken Nederland B.V. v. United States*, 728 F. Supp. 730, 741 (CIT 1989); *Citrosuco Paulista*, 704 F. Supp. at 1101.

⁶⁴ Vice Chairman Watson notes that the courts have interpreted the statutory requirement that the Commission consider whether there is material injury "by reason of" the subject imports in a number of different ways. Compare *United States Engineering & Forging v. United States*, 779 F. Supp. 1375, 1391 (Ct. Int'l Trade 1991) ("[I]t must determine whether unfairly-traded imports are contributing to such injury to the domestic industry...Such imports, therefore, need not be the only cause of harm to the domestic industry")(citations omitted) with *Metallverken Nederland B.V. v. United States*, 728 F. Supp. at 741 (affirming a determination by two Commissioners that "the imports (continued...)

Commission is directed to "evaluate all relevant factors . . . within the context of the . . . conditions of competition that are distinctive to the affected industry."⁶⁶

A. Volume of LTFV Imports

The quantity and value of LTFV imports *** over the period of investigation. The quantity of imports of PPD-T aramid fiber from the Netherlands *** from 1991 to 1993, although import quantities *** from 1992 to 1993. Similarly, the value of LTFV imports *** percent from 1991 to 1993, notwithstanding *** from 1992 to 1993.⁶⁷

In this case, however, the volume of U.S. shipments of LTFV imports and the percentage such shipments constituted of total domestic consumption are more meaningful indicators of the significance of the volume of LTFV imports in the U.S. market.⁶⁸ Both the quantity and value of U.S. shipments of LTFV imports *** throughout the period of investigation. The quantity of U.S. shipments of LTFV imports *** percent from 1991 to 1992 and by *** percent from 1992 to 1993. The value of U.S. shipments *** percent from 1991 to 1992 and by *** percent from 1992 to 1993. Market penetration of LTFV imports, based on the quantity of U.S. shipments as a percentage of domestic consumption, rose from *** percent in 1991 to *** percent in 1992 and *** percent in 1993.⁶⁹ In light of these data, we determine that both the volume of LTFV imports and the increase in that volume, relative to consumption in the United States, are significant.⁷⁰

⁶⁴ (...continued)

were a cause of material injury") and USX Corp. v. United States, 682 F. Supp. 67, 69 (Ct. Int'l Trade 1988)("any causation analysis must have at its core the issue of whether the imports at issue cause, in a non de minimis manner, the material injury to the industry").

Accordingly, Vice Chairman Watson has determined to adhere to the standard articulated by Congress, in the legislative history of the pertinent provisions, which states that "the Commission must satisfy itself that, in light of all the information presented, there is a sufficient causal link between the less-than-fair-value imports and the requisite injury." S. Rep. No. 249, at 75.

⁶⁵ Commissioner Crawford notes that the statute requires that the Commission determine whether a domestic industry is "materially injured by reason of" the LTFV imports. She finds that the clear meaning of the statute is to require a determination whether the domestic industry is materially injured by reason of LTFV imports, not by reason of LTFV imports among other things. Many, if not most, domestic industries are subject to injury from more than one economic factor. Of these factors, there may be more than one that independently is causing material injury to the domestic industry. It is assumed in the legislative history that the "ITC will consider information which indicates that harm is caused by factors other than less-than-fair-value imports." S. Rep. No. 249 at 75. However, the legislative history makes it clear that the Commission is not to weigh or prioritize the factors that are independently causing material injury. Id. at 74; H.R. Rep. No. 317, 96th Cong., 1st Sess. 46-47 (1979). The Commission is not to determine if the LTFV imports are "the principal, a substantial or a significant cause of material injury." S. Rep. No. 249 at 74. Rather, it is to determine whether any injury "by reason of" the LTFV imports is material. That is, the Commission must determine if the subject imports are causing material injury to the domestic industry. "When determining the effect of imports on the domestic industry, the Commission must consider all relevant factors that can demonstrate if unfairly traded imports are materially injuring the domestic industry." S. Rep. No. 71, 100th Cong., 1st Sess. 116 (1987) (emphasis added).

⁶⁶ 19 U.S.C. § 1677(7)(C).

⁶⁷ Table 16, CR at I-58, PR at II-26.

⁶⁸ A principal reason for this is the ***. Table 14, CR at I-53, PR at II-25. ***.

⁶⁹ Table C-1, CR at C-3, PR at C-3.

⁷⁰ See 19 U.S.C. 1677(7)(C)(i). Akzo argues that its imports are not significant because they did not exceed, on an extrapolated basis, the volumes that it was permitted to sell in the United States pursuant to a cross-licensing agreement with Du Pont that was effective between May 1988 and March 1992. Akzo argues that Du Pont would not have agreed to permit it to import an injurious volume of
(continued...)

B. Effects on Prices

PPD-T aramid fiber is primarily priced according to the end-use market in which it is sold, meaning that the same product can be sold at widely varying prices to different end-users. This practice is also called "value-in-use" pricing.⁷¹ We found in the preliminary determination, and reiterate here, that because of value-in-use pricing, industrywide pricing data are of limited probative value.⁷²

In this final investigation, Commission staff collected information from purchasers of PPD-T aramid fiber who purchased both the domestically-produced product and the subject imports. These data are probative because they permit comparisons of prices charged for the same products to the same purchaser.⁷³ In 47 of the 60 available comparisons, the imported product was priced between 0.6 percent and 32.1 percent below the domestic product. Moreover, all but one of the 12 purchasers that purchased both products reported that the prices of the subject imports were generally lower than those for the domestic product.⁷⁴ We therefore find that there has been significant price underselling by the subject imports as compared with the domestic like product.^{75 76}

In light of the dynamics of the aramid fiber market, this pervasive underselling is significant. The record indicates that once qualified for a specific end-use application, the Du Pont and Akzo products are considered interchangeable.⁷⁷ Du Pont is qualified ***.⁷⁸ Substitution of aramid fiber by competing fibers, however, is far more limited because switching fiber types generally requires redesigning the end product, involving significant time and expense.⁷⁹

Because of the high substitutability between competing producers' aramid fiber products, pricing can and does play a significant role in purchasers' sourcing decisions for

⁷⁰ (...continued)

PPD-T aramid fiber. We reject this argument. The Commission has previously stated that voluntary restraints on import volumes do not preclude a finding of material injury by reason of such imports. See, e.g., Flat-Rolled Carbon Steel Products, USITC Pub. 2664 at 19 n.57, and cases cited therein.

⁷¹ See Tr. at 29-31 (Keogh).

⁷² USITC Pub. 2672 at 20.

⁷³ CR at I-84, PR at II-35.

⁷⁴ CR at I-84, PR at II-35. In addition to the data obtained from purchasers who purchased both imported and domestically-produced PPD-T aramid fiber, the Commission obtained information from Du Pont and Akzo concerning the average prices that they charged for ten specific products. Because of "value-in-use" pricing, this information is not as probative as the purchaser-specific price comparisons discussed above. Nevertheless, the producer comparisons do corroborate the conclusion of extensive underselling reached from the purchaser comparisons. In *** comparisons based on producer data, the imported product was priced between *** percent below the domestic product. Id. ***. See Table 18, CR at I-85, PR at II-35 (Products 5 and 9).

⁷⁵ See 19 U.S.C. § 1677(7)(C)(ii)(I).

⁷⁶ Commissioner Crawford rarely gives much weight to evidence of underselling since it usually reflects some combination of differences in quality, other nonprice factors, or fluctuations in the market during the period in which price comparisons were sought.

⁷⁷ CR at I-13-14, PR at II-8; EC-R-059 at 27.

⁷⁸ Du Pont Prehearing Brief at 39; see Du Pont Posthearing Brief, Part II, at 19. Purchasers that had qualified both Akzo and Du Pont as suppliers were responsible for a majority of 1993 domestic shipments. See Du Pont Posthearing Brief, Part II at 19-20; Akzo Posthearing Brief, Response to Commission Questions, at 15.

⁷⁹ CR at I-16, PR at II-9. For example, the process of substituting competing fibers for aramid fibers in the *** industry has taken several years. CR at I-92-93, PR at II-38; Akzo Prehearing Brief, app. C.

aramid fiber.⁸⁰ Purchasers generally identified price as among the major factors that they considered in determining from whom to purchase PPD-T aramid fiber.⁸¹ In such circumstances, the introduction of significant volumes of low-priced subject imports into the market affects overall domestic prices.

Indeed, the record indicates several instances where individual purchasers reported that the effect of the subject imports was to reduce the overall price levels for the product. ***.⁸² Other purchasers similarly reported to Commission staff that previous patterns of price increases stopped upon Akzo's entry to the market.⁸³ We consequently conclude that the effect of LTFV imports was to suppress prices to a significant degree.⁸⁴

C. Impact of LTFV Imports on the Domestic Industry

The adverse effects of the LTFV imports have not been limited to depressing and suppressing price levels. The LTFV imports have also had adverse volume effects on the domestic industry. As previously stated, the LTFV imports and domestically-produced aramid fiber are close substitutes and pricing is important in purchasing decisions. Consequently, one would expect that when significant volumes of lower-priced subject imports are introduced into the market, they will take sales away from the domestically-produced product.

The record in this investigation indicates that this in fact did occur. This is apparent from both industrywide and market segment data. The *** market share of LTFV imports rose throughout the period of investigation, and the domestic industry's shipments and market

⁸⁰ Chairman Newquist notes that in most investigations the like product analysis and determination based on characteristics and uses establishes a reasonable degree of substitutability; thus, further inquiry into substitutability issues is usually not warranted.

⁸¹ CR at I-89, PR at II-36.

⁸² Du Pont Posthearing Brief, Annex A.

⁸³ See CR at I-95, I-97, I-98, I-99, I-105, I-106, PR at II-38. Akzo argues that the expiration of the Du Pont patent for aramid fiber in March 1992, rather than its increased volumes of subject imports, is the cause of this change in pricing patterns. Akzo argues that expiration of a patent in and of itself will cause a change in pricing patterns in an industry. See Akzo Prehearing Economic Submission at 33.

Although the record indicates some changes in domestic pricing patterns for PPD-T aramid fiber coincident with the expiration of the Du Pont patent, see CR at I-77, PR at II-33, the record does not support the conclusion that there is a causal nexus between the two events. The significant capital and qualification expenses needed to produce and sell PPD-T aramid fiber would preclude any large-scale influx of product from new sources upon expiration of the patent. Compare Generic Cephalexin from Canada, Inv. No. 731-TA-423 (Final), USITC Pub. 2211 at 15-16 (Aug. 1989) (entry into market for generic cephalexin is feasible even at relatively low sales volumes). Indeed, the U.S. market for PPD-T aramid fiber featured the same two market participants after expiration of the Du Pont patent that it did before: Akzo and Du Pont. Akzo had been permitted to import PPD-T aramid fiber in the United States, subject to royalty provisions and quantity limits, since May 1988 pursuant to a cross-licensing agreement with Du Pont. CR at I-6, PR at II-4. Moreover, for several of its customers, Akzo uses the same "value-in-use" pricing method as does Du Pont, see CR at I-64, PR at II-28, although its prices are generally at lower levels.

⁸⁴ See 19 U.S.C. § 1677(7)(C)(ii)(ii). Akzo argues that pricing effects in the aramid fiber market are a result of competition between aramid fiber and other fibers. In light of the significant time and development costs entailed by switching from aramid fiber to another fiber, and the large deviation between prices of aramid fiber and substitutes, see EC-R-059 at 31-32, we conclude that interfiber competition is less significant than competition between competing aramid fiber products. Consequently, assuming arguendo that there were adverse price effects on the domestic industry due to competing fibers, these effects were in addition to those resulting from LTFV imports.

penetration declined.⁸⁵ Additionally, the quantity of U.S. shipments of LTFV imports *** in a number of markets where overall shipments ***.⁸⁶ ***.

That LTFV imports took sales away from the domestically-produced product is also apparent by examining the experiences of individual purchasers.⁸⁷ The record is replete with instances in which purchasers stated that they switched from the domestic product to the subject imports because of the latter's lower prices.⁸⁸ Moreover, ***.⁸⁹

These *** are but one of several types of information in the record that directly rebut Akzo's contention that its main competition in the United States was not Du Pont, but non-aramid fibers. At the hearing, an Akzo witness testified that "what we simply were doing was competing then versus the [non-aramid] product . . . [the customers] have made the decision to change to."⁹⁰ One Commissioner requested that Akzo document any instances in which it sold aramid fiber to customers who had previously switched to other fibers.⁹¹ Akzo's 18-page response in its posthearing brief provides no examples of such product shifting.⁹² The only instances that Akzo could provide of customers for which it had developed new applications of aramid fiber were former Du Pont customers.⁹³ Indeed, Akzo has acknowledged that ***.⁹⁴

The record clearly indicates that the sole domestic marketer of PPD-T aramid fiber, Du Pont, was Akzo's principal competition, that Akzo's pricing policies were designed to win sales from former Du Pont customers, and that Akzo succeeded in its designs. Consequently, we conclude that the declining sales and market shares, reduced employment levels, and impaired financial condition of the domestic industry were by reason of LTFV imports. Additionally, as evidenced by the decline in Du Pont's research and development and capital expenses, and the importance of such expenses to the viability of the industry, LTFV imports have had actual and potential negative effects on the domestic industry's existing development and production efforts.⁹⁵ ⁹⁶

⁸⁵ Table C-1, CR at C-3, PR at C-3. The market penetration of third-country imports was extremely low throughout the period of investigation. *Id.* These imports consisted of yarn spun in Northern Ireland from polymer produced in the United States by Du Pont. CR at I-59, PR at II-27. No party argued that these imports be treated as U.S. production; to the contrary, Du Pont asserted that yarn spinning operations constituted the "heart" of its production process. *See* Tr. at 24 (Keogh); *see also* Figure 2, CR at I-27, PR at II-15.

⁸⁶ Table G-1, CR at G-3, PR at G-3.

⁸⁷ Commissioner Crawford does not rely on anecdotal evidence of lost sales and revenues showing that competition from LTFV imports caused domestic producers to lose particular sales or forced them to reduce their prices on other sales in reaching her determination.

⁸⁸ CR at I-93, I-95, I-96, I-97, I-98, I-101, I-104, I-105, PR at II-38.

⁸⁹ ***. CR at I-69, PR at II-30.

⁹⁰ Tr. at 189 (Bivens).

⁹¹ *See* Tr. at 192-93 (Commissioner Rohr). *See also* Tr. at 189 (Commissioner Crawford).

⁹² *See* Akzo Posthearing Brief, Response to Questions, at 29-46. Moreover, one *** that stated that it switched to Akzo from Du Pont due to the reduced prices offered by Akzo, and whose purchasing practices Akzo cites as an example of "interfiber competition," indicated to Commission staff that ***. CR at I-93, PR at II-38. Other Akzo purchasers informed Commission staff that demand in their markets for products containing aramid fiber was growing or that there was no movement towards substitute products. *See* CR at I-94, I-96, I-104, I-105, PR at II-38.

⁹³ Akzo Posthearing Brief, Response to Questions, at 16.

⁹⁴ Akzo questionnaire response.

⁹⁵ *See* 19 U.S.C. § 1677(7)(C)(iii)(IV).

⁹⁶ In her analysis of material injury, Commissioner Crawford determines whether the price, sales and revenue effects of the dumping, either separately or together, demonstrate that the domestic industry would have been materially better off if the imports had been priced fairly.

(continued...)

CONCLUSION

We find that the relatively low prices of the subject imports have enabled them to increase in *** market share at the expense of the domestic industry, have enabled them to displace domestic sales, and have suppressed price levels. As a result, the domestic industry has suffered declines in shipments, production, employment, and profitability during the period of investigation. It has also curtailed critical research and development and capital expenditures. We therefore determine that the record in this final investigation establishes that the domestic industry producing PPD-T aramid fiber is materially injured by reason of LTFV imports from the Netherlands.

* (...continued)

If the imports from the Netherlands had not been dumped, they would have sold in the U.S. at much higher prices. In fact, given the level of substitutability between the dumped imports and the domestic product, it is unlikely that any volume of dumped imports would have entered the domestic market if they had been priced fairly. Because the domestic product and the dumped imports are good substitutes, purchasers would have reduced their purchases of the LTFV imports, and demand for the domestic product would have increased. ***. In a competitive market environment characterized by excess production capacity, domestic producers would have increased significantly their production of aramid fiber products but would have been unable to sustain a price increase. The aramid fiber market in the U.S., however, is not a competitive market. If the dumped imports had been priced fairly, they would have been priced out of the market, and Du Pont would not have had any competition in the domestic market. This monopoly power would have allowed Du Pont to choose a combination of price and production increases that would maximize its profits, subject to competition from substitute fibers. Because of the time and expense required to redesign a product to use a substitute fiber, competition from substitute fibers would not have prevented significant price increases.

Du Pont would have been able to increase the price of its aramid fiber products and increase the quantity of its production and sales. Its revenues and profits would have increased significantly. Accordingly, Commissioner Crawford concludes that the domestic industry would have been materially better off if the dumped imports had been priced fairly. Therefore, she determines that the domestic industry is materially injured by reason of the dumped imports of aramid fiber from the Netherlands.

PART II
INFORMATION OBTAINED IN THE INVESTIGATION

INTRODUCTION

Following a preliminary determination by the U.S. Department of Commerce (Commerce) that imports of aramid fiber formed of poly para-phenylene terephthalamide (PPD-T aramid fiber)¹ from the Netherlands are being, or are likely to be, sold in the United States at less than fair value (LTFV),² the U.S. International Trade Commission (Commission), effective December 14, 1993, instituted investigation No. 731-TA-652 (Final) under section 735(b) of the Tariff Act of 1930 (the Act).³ This investigation was instituted to determine whether an industry in the United States is materially injured or threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports of such merchandise. Notice of the institution of the Commission's investigation and of a public hearing to be held in connection therewith was posted in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and published in the *Federal Register*.⁴ The Commission's hearing was held at the U.S. International Trade Commission Building in Washington, DC, on May 5, 1994.

In its final determination,⁵ Commerce found that imports of PPD-T aramid fiber from the Netherlands are being, or are likely to be, sold in the United States at LTFV. The applicable statute directs the Commission to make its final injury determination within 120 days after notification of Commerce's preliminary determination or within 45 days after notification of Commerce's final determination, whichever is later.⁶ The Commission is scheduled to make its final injury determination in this investigation by June 15, 1994. A list of participants at the Commission's hearing and copies of Commerce's and the Commission's *Federal Register* notices are presented in appendix A.

BACKGROUND

This investigation results from a petition filed with the Commission and Commerce by counsel on behalf of E.I. Du Pont de Nemours & Co. (DuPont), Wilmington, DE, on July 2, 1993, alleging that an industry in the United States is materially injured or threatened with material injury by reason of LTFV imports of PPD-T aramid fiber from the Netherlands. In response to that petition the Commission instituted investigation No. 731-TA-652 (Preliminary) under section 733 of the Act⁷ and, on August 16, 1993, determined that there was a reasonable indication of such material injury.⁸

¹ The imported merchandise which is the subject of Commerce's investigation is all forms of PPD-T aramid fiber from the Netherlands. This consists of PPD-T aramid fiber in the form of filament yarn (including single and corded), staple fiber, pulp (wet or dry), spunlaced and spunbonded nonwovens, chopped fiber, and floc. The subject product is provided for in subheadings 5402.10.30, 5402.32.30, 5503.10.00, and 5601.30.00 of the Harmonized Tariff Schedule of the United States (HTS). Commerce's scope of this investigation, as presented in this report, has been corrected to conform with telephone conversations with Commerce officials. Commerce indicated that it plans to publish its corrections to the scope language in the *Federal Register* following the Commission's final determination in this investigation. Telephone conversation with *** of Commerce, May 17, 1994.

² 58 F.R. 65699, Dec. 16, 1993.

³ 19 U.S.C. § 1673d(b).

⁴ 59 F.R. 3122, Jan. 20, 1994.

⁵ 59 F.R. 23684, May 6, 1994.

⁶ 19 U.S.C. § 1673d(b)(2).

⁷ 19 U.S.C. § 1673b(a).

⁸ 58 F.R. 44849, Aug. 25, 1993.

PRODUCT HISTORY

In the mid-1960s, research scientists employed by DuPont began work on aromatic polyamides that would later lead to the current formulation of PPD-T aramid fiber. In the early 1970s, DuPont pioneered the development and production of this product under the registered trademark Kevlar® at its Spruance facility near Richmond, VA.⁹ DuPont's commercial production of Kevlar® began in 1973 and, to date, DuPont is the only producer of this aramid product in the United States.

Following DuPont's initial discovery, Akzo N.V. (Akzo), a Netherlands corporation, began aromatic polyamide development, establishing a pilot plant to produce a PPD-T aramid fiber. In 1983, Enka B.V. (Enka), a wholly-owned subsidiary of Akzo, and N.V. Noordelijke Ontwikkelingsmaatschappij (NOM), a development company of the Dutch government, entered into an agreement to establish a joint venture for the commercial production of PPD-T aramid fiber.¹⁰ The joint venture, Aramide Maatschappij V.O.F. (Aramide), began commercial production of PPD-T aramid fiber under the registered trademark Twaron® in 1987 and began selling the product commercially in the United States in 1988.

The 1980s were marked by a legal war over PPD-T aramid fiber process patents held by DuPont and Akzo. Although DuPont held the basic patent for PPD-T aramid fiber, the company's original production process used a solvent that was found to be carcinogenic in laboratory tests. DuPont then switched to a solvent used in the PPD-T production process under which Akzo held a patent, contending that Akzo's patent was invalid because it was based on "prior art" patented by DuPont. DuPont also argued that Akzo had infringed on DuPont's basic patent for the spinning process.

Numerous legal battles concerning patents held by DuPont and Akzo ensued not only in the United States and the Netherlands, but also in several other industrialized countries, including the United Kingdom, France, Japan, and West Germany. In many of these countries, the outcome was a ban against one or the other company's product. In addition, initial rulings in a few cases were later reversed in favor of the other company's product.

A resolution of the worldwide patent struggle was reached by DuPont and Akzo through a cross-licensing agreement, finalized on May 10, 1988. This agreement allowed limited amounts of Twaron® to be exported to the United States from May 1988 to March 1992¹¹ in exchange for royalty payments and access to Akzo's patents elsewhere.¹² The amounts of Twaron® allowed to enter the United States for sale under the cross-licensing agreement¹³ are presented in the following tabulation (*in metric tons*):

⁹ DuPont has invested over \$800 million for Kevlar® in research and development, market development, and manufacturing facilities. DuPont indicated that this investment has ***. Transcript of the hearing, pp. 21-22, and DuPont's posthearing brief, p. 6.

¹⁰ Prior to this final investigation, shares in the joint venture were *** by Enka and NOM; however, as a result of a recent acquisition, effective Dec. 31, 1993, the joint venture is currently 95 percent owned by Akzo. "DuPont vs. the Dutch," *Performance Materials*, Apr. 4, 1994, and telephone conversation with Akzo's counsel on Apr. 7, 1994.

¹¹ The last of DuPont's patents concerning PPD-T aramid fiber expired on Mar. 4, 1992.

¹² Transcript of the conference, p. 92, and Akzo's postconference brief, app. A, exh. 1.

¹³ Filament yarn was to account for *** of the import tonnage. Pulp and staple fiber were permitted to account for *** of the imports.

<u>Period</u>	<u>Quantity</u>
May 10, 1988 to Dec. 31, 1988	***
Jan. 1, 1989 to Dec. 31, 1989	***
Jan. 1, 1990 to Dec. 31, 1990	***
Jan. 1, 1991 to Dec. 31, 1991	***
Jan. 1, 1992 to Mar. 4, 1992	***

RELATED COMMISSION INVESTIGATION

On May 14, 1984, the Commission instituted investigation No. 337-TA-194 to determine whether there was a violation of subsection (a) of section 337 of the Act,¹⁴ regarding the unlawful importation of certain aramid fiber into the United States or its sale, by reason of alleged production of such fiber overseas by means of a process allegedly covered by the claims of a U.S. patent,¹⁵ the effect or tendency of which is to destroy or substantially injure an industry, efficiently and economically operated in the United States.¹⁶ The complaint, filed by DuPont, named the following respondents: Akzo, Enka, and Aramide, all of the Netherlands, and Akzona, Inc., of Asheville, NC. The Commission found a violation of section 337 and a limited exclusion order was issued on November 25, 1985,¹⁷ prohibiting the unlicensed importation of certain aramid fiber in the form of fiber, yarn, pulp, staple, chopped fiber, paper, felt, or fabric, manufactured abroad by the named respondents or any of their affiliated companies, parents, subsidiaries, licensees, or other related business entities, or their successors or assignees.¹⁸

THE PRODUCT

Description

Aramid fiber formed of PPD-T is a high-performance synthetic fiber. Special characteristics include high strength, high modulus (resists deformation by stretching), high thermal stability, fire resistance, and chemical resistance. PPD-T aramid fiber is distinguished from other fibers by its chemical composition, specific properties, method of production, and range of end uses. PPD-T aramid fiber may be produced in a variety of forms including filament yarn (single and corded), staple, pulp, floc, chopped fiber, and nonwovens.

PPD-T aramid filament yarn, which may consist of one continuous filament or multiple filaments grouped together, is used as a reinforcement material in radial tires and advanced composites. Filament yarn may also be used to make ropes and cables, including fiber optic cables. It is offered in standard, intermediate, and high modulus ranges.

¹⁴ 19 U.S.C. § 1337 and 19 U.S.C. § 1337(a).

¹⁵ The process, entitled "Dry-Jet Wet Spinning Process," is used in the production of PPD-T aramid fiber. The U.S. patent on the process (U.S. Letters Patent 3,767,756), issued on Oct. 23, 1973, to inventor Herbert Blades and assigned to DuPont, expired on Oct. 23, 1990.

¹⁶ 49 F.R. 21806, May 23, 1984.

¹⁷ The procedures used by the Commission formed the basis for a General Agreement on Tariffs and Trade (GATT) challenge. The GATT council, on Nov. 7, 1989, found certain aspects of the statute to be inconsistent with the GATT, and the United States agreed to bring the statute into compliance. Akzo's postconference brief, app. A, p. 2.

¹⁸ 50 F.R. 49776, Dec. 4, 1985. U.S. International Trade Commission, *In the Matter of Certain Aramid Fiber* (inv. No. 337-TA-194), USITC Publication 1824, March 1986.

In its other forms, the PPD-T aramid filament yarn is cut in specific lengths. Staple fibers are precision-cut short fibers which typically range from approximately 3/4 inch to 6 inches in length. Staple fibers may be processed into spun yarns used to make fabric for specialty and protective apparel and other textile products.¹⁹ Floc fibers are precision-cut short fibers which typically range from approximately 1/25 inch to 1/4 inch in length. Floc is used in a wide variety of reinforcement resin systems and to produce PPD-T paper for substrate material in circuit boards. Chopped fiber is randomly cut in 1/4-inch to 1/2-inch lengths and is used in friction materials, rubber goods, and composites. Pulp, a highly fibrillated form of the fiber, is used in brakes and gaskets as a replacement for asbestos, and in specialty composites.

All forms of PPD-T aramid fiber are produced from the same raw materials and have the same chemical composition. DuPont asserts that although the form of the fiber can be tailored so that it can be used efficiently in each end-use application, the fiber's chemical properties determine its physical and performance characteristics, which are shared among all forms of the fiber. The petitioner explains that "Insofar as end-use is concerned, it is difficult for a customer to switch from one fiber form or type to another after the "designing in" process has occurred. However, there is choice before a particular form or type of fiber is designed into the downstream product. Moreover, whatever form of PPD-T aramid fiber is chosen by the customer, the reason for the selection is the properties that are common to all forms of the fiber (i.e., its low weight delivery of high strength, resistance to stretch, thermal stability and chemical resistance)."²⁰

Akzo argues that although thermal stability remains largely unchanged as staple, pulp, and nonwovens are produced from yarn, the strength-to-weight ratio and resistance to stretch substantially change among the forms. Akzo also contends that physical differences in each of the forms of PPD-T aramid fiber (i.e., yarn, staple, pulp, and nonwovens) embody fundamental differences in performance characteristics which lead to separate end-use applications.²¹

PPD-T aramid fibers are produced in commercial quantities under the trademark Kevlar® by DuPont in the United States, Ireland, and Japan and under the trademark Twaron® by Akzo in the Netherlands. Kevlar® and Twaron® are produced using similar technology, possess similar properties and characteristics, and are interchangeable in most end uses for which they are qualified. Both producers offer PPD-T aramid fiber in the form of filament yarn, staple, floc, and pulp forms;²² offer standard, intermediate, and high modulus filament yarns; and provide similar fiber finishes.

¹⁹ Staple fiber may also be used to make spunlaced nonwovens. Spunbonded and spunlaced nonwovens composed of PPD-T aramid fiber are the only types of nonwovens subject to this investigation. These nonwovens are web-like fabrics in which PPD-T aramid fiber is arranged and entangled in either a directional or random manner. DuPont is the only U.S. producer of PPD-T aramid fiber spunlaced nonwovens and there are no U.S. producers of spunbonded nonwovens composed of PPD-T aramid fiber. In addition, Akzo does not produce any type of PPD-T aramid nonwoven. Other nonwovens which are produced from PPD-T aramid fiber require substantial amounts of binders or other additives to ensure cohesion and instill certain properties sought in the end product. These other nonwovens are produced in the United States by purchasers of DuPont's and Akzo's product. Transcript of the conference, p. 106; transcript of the hearing, pp. 68-69; and telephone conversations with ***, Feb. 15, 1994, and May 13, 1994.

²⁰ DuPont's prehearing brief, pp. 15-16; transcript of the hearing, pp. 24-25 and 70; and DuPont's posthearing brief, pp. 4-5 and exh. I.

²¹ Akzo's prehearing brief, p. 7; transcript of the hearing, pp. 154-157; and Akzo's posthearing brief, pp. 4-5.

²² DuPont produces spunlaced nonwovens composed of PPD-T aramid fiber at its facility ***. Akzo does not produce PPD-T aramid nonwovens.

Uses

Compared to other synthetic fibers such as polyester and nylon, the market for PPD-T aramid fiber is small and limited to a small number of specialty end-use products. Because PPD-T aramid fiber is a highly-specialized product, large investments in time and money are necessary to develop new applications. Also, the high cost of PPD-T aramid fiber, relative to other fibers and materials, tends to limit the use of this fiber.

Major end-use markets for PPD-T aramid fiber in the United States include gaskets and seals, friction materials, ropes and cables, rubber reinforcement (tires, belts, and hoses), advanced composites, and ballistic-protection apparel (military and civilian) (figure 1).

Figure 1
PPD-T aramid fiber: U.S. consumption, by end uses, 1993

* * * * *

The gasket and friction materials markets have over the years been a major growth area for PPD-T aramid fiber with the development of pulp as a replacement for asbestos. Pulp is also used in place of fumed silica and asbestos for viscosity control and reinforcement of adhesives and sealants.

In the tire market, PPD-T aramid filament yarn is used mainly in radial tires. Properties include good wear and strength, light weight, good thermal stability, and reduced rolling resistance. However, PPD-T is a minor contributor in the tire market. In 1992, PPD-T aramid fiber made up less than 2 percent of tire cord fabric shipments. Steel accounted for 51 percent of U.S. tire cord fabric shipments while polyester, nylon, and rayon accounted for 27, 20, and less than 1 percent, respectively.²³

In the rope and cable market, the use of PPD-T aramid fiber has been limited to niche applications, largely because of its high cost relative to other materials, such as steel cable. In the offshore oil industry PPD-T aramid filament fiber is used in mooring lines, pennant lines, and riser tensioner cables because of its resistance to chemicals and corrosion. Because of their electrical neutrality, ropes and cables made of PPD-T aramid filament fiber are used in radio antenna tower guys and in stays on the electronic equipment masts on naval vessels. Light weight, resistance to stretch, and excellent dielectric properties also make PPD-T aramid filament fiber a good reinforcement material for above-ground fiber optic cables.

Advanced composites are typically made up of a matrix resin containing 60-70 percent by weight of a high-performance fiber such as carbon, high-strength fiberglass, or PPD-T aramid fiber.²⁴ Composites incorporating PPD-T aramid filament yarn and staple are used in the aircraft/aerospace, marine, recreational, and automotive industries. PPD-T aramid fibers may also be used in combination with carbon or fiberglass fibers in hybrid composites, in order to achieve a broader range of performance and cost options.

²³ U.S. Bureau of the Census, *Current Industrial Reports--Broadwoven Fabrics (Gray)*, (Washington: GPO, 1993), p. 13.

²⁴ During the period of investigation, aramid fibers accounted for about 25 percent of the total fiber usage for advanced composites. Carbon fibers accounted for almost 60 percent of this market. James Weatherall and Carl Eckert, "Advanced Polymer Composites Overview and Outlook," *U.S. Bureau of Mines Information Circular 1990: Advanced Materials Outlook and Information Requirements*, Washington, DC, 1990, p. 30, and telephone conversation with ***, U.S. Bureau of Mines, May 26, 1994.

In the ballistics-protection market, PPD-T aramid filament yarn, staple, and nonwoven fabrics are used to make bullet-resistant garments and helmets. Other protective apparel applications include cut-resistant and temperature-resistant gloves, leg chaps for protection from chain saw accidents, and steel replacements in steel-toed shoes. Nonprotective fabric applications include parachutes and sails.

Both DuPont and Akzo produce similar products for the end uses listed. However, in a few cases, one producer may offer a more specialized product for a certain end use. For example, DuPont offers specialized forms of pulp that allow for better dispersion of the fiber in composite materials.²⁵ Akzo offers a filament yarn with a special adhesive activation finish for use in rubber goods²⁶ and a few other types of Twaron® which Akzo claims have special characteristics compared with DuPont's product.

Although the physical properties of Kevlar® and Twaron® products are basically the same, substitution of these products for each other is limited in certain end-use applications because of qualification requirements. The qualification process is expensive²⁷ and, depending on the end use, can take 6 months to 2 years²⁸ for a new entrant in a previously developed market.²⁹ Once qualified for a specific end-use application, a product is considered physically interchangeable with other certified products of the same type of fiber.

Substitute Products

Several products are used in the same end-use applications as PPD-T aramid fiber. However, in some cases these products are not directly competitive with PPD-T aramid fiber.³⁰ Presented in table 1 are major end-use applications for PPD-T aramid fiber, the forms of fiber used in these applications, and possible substitute products. Akzo has submitted additional information concerning specific end-use applications for PPD-T aramid fiber, the forms and functions of the fiber used in these specific applications, and substitute products. DuPont also submitted additional information concerning the advantages of Kevlar® over the advantages of the alternative fibers. This additional information is presented in appendix B.

Table 1
PPD-T aramid fiber: Major end-use applications and substitute products

* * * * *

Use of certain products depends on the design and the qualities desired in the end product. For example, although the use of PPD-T aramid fiber may make a superior product, a tire manufacturer may choose to use steel because it provides adequate properties at a lower cost and because of the strong image that steel projects among most tire customers.

There is considerable competition, however, among the high-performance fibers such as carbon fiber; the ultra-high-molecular-weight polyethylene fibers--Spectra® produced by Allied-

²⁵ Petition, att. 1 and transcript of the conference, pp. 23 and 61.

²⁶ Transcript of the conference, p. 117.

²⁷ The qualification process for a product in a previously developed market can require hundreds of thousands of dollars.

²⁸ *** commented that the approval process can take up to four years for certain applications.

²⁹ In its questionnaire response, DuPont emphasized ***. The firm explains ***. DuPont also claims ***.

³⁰ For more information on issues of competition with substitute products, see the section of this report entitled "Marketing Characteristics."

Signal and Dyneema[®] produced by DSM and Toyobo; S-glass, a high-strength fiberglass fiber made by Owens-Corning Fiberglass; and Technora[®], a para-aramid co-polymer fiber made by Teijin. With the exception of carbon fibers, the use of PPD-T aramid fiber dominates the market for high-performance fibers.

Each of these fibers has specific properties that make them suitable for use in particular end-use applications. Spectra[®] and Dyneema[®] filament yarn compete with PPD-T aramid filament yarn mainly in the ballistics-protection apparel market. Technora[®] competes in the rubber reinforcement, ropes and cables, and ballistic-protection apparel markets. Carbon fiber and S-glass are competitive in the advanced composite materials markets.

Most of the applications that incorporate PPD-T aramid fiber involve highly-specialized products that have been engineered around the characteristics of this fiber. To substitute another fiber for use in a specific end product would likely involve redesigning the end product. The time and expense involved in redesigning an end product tends to impede the substitution of materials. However, for those that have already invested the time and money in redesigning their end product to use both PPD-T aramid fiber and another fiber, the substitute fiber may be more directly competitive with PPD-T aramid fiber.³¹

Production Process³²

Synthetic fiber, including PPD-T aramid fiber, is formed by a spinning³³ process in which a polymer solution is extruded through the tiny holes of a spinneret to form continuous filament fiber. The polymer may be produced "in-line" with the spinning process or may be produced in a separate process at a different location.³⁴

Production of PPD-T polymer involves the low temperature polycondensation of p-phenylenediamine (PPD) and terephthaloyl chloride (TCL) in an amide-type solvent such as dimethyl acetamide, N-methylpyrrolidinone, hexamethylphosphoric triamide, or tetramethylurea.³⁵ The polymer resulting from this reaction is washed and filtered several times to remove the acid and then dried.

In preparation for spinning, the PPD-T polymer is redissolved in a strong acid, such as sulfuric acid or chloro- or fluoro-sulfuric acid. A dry-jet wet or air gap spinning method is used, in which the polymer solution is extruded from a spinneret located a fraction of an inch above a coagulating bath of dilute sulfuric acid. The filament fiber, which is extruded into the acid bath, rapidly coagulates and crystallizes, developing its full orientation and structure. After coagulation, the filament fiber is pulled through a series of washing stages of either water or dilute caustic to completely remove the acid and achieve a pH-neutral filament fiber. The filament fiber is then dried on steam-heated rolls. At this time the physical tensile properties are substantially developed. Any further changes in modulus or other physical tensile properties require the application of substantial

³¹ Akzo indicated ***. Verification trip, ***, May 10, 1994. DuPont indicated ***. DuPont added ***. Telephone conversation with ***, May 13, 1994.

³² For further description of the production process for PPD-T aramid fiber, see U.S. Letters Patent No. 3,767,756 entitled "Dry-Jet Wet Spinning Process" issued Oct. 23, 1973.

³³ The term "spinning" used here is not to be confused with the textile mill process in which spun yarn is processed from staple fiber such as cotton.

³⁴ In the United States, DuPont produces PPD-T polymer and spins the fiber at its plant in Richmond. In the Netherlands, Akzo produces PPD-T polymer at its plant in Delfzijl and spins the fiber at its plant in Emmen.

³⁵ "Aramid Fibers," *Encyclopedia of Textiles, Fibers, and Nonwoven Fabrics*, Editor, Martin Grayson, John Wiley & Sons: New York, 1984.

heat and tension, which may be done in an off-line process. Depending on the fiber's end use, various finishes may be applied to the dried filament yarn before it is wound onto a bobbin.³⁶

PPD-T aramid filament yarn is produced in three modulus ranges: standard modulus (approximately 550 grams per denier), intermediate modulus (approximately 780 grams per denier), and high modulus (approximately 890 grams per denier).³⁷ The process described above produces a standard modulus filament fiber. In order to achieve a higher modulus, the filament fiber must undergo additional heat treatment under tension.³⁸

The manufacture of continuous filament "single" yarn involves collecting and twisting together a number of individual filament fibers. In order to make a heavier yarn, two or more single yarns may be twisted together to form a plied yarn. A corded yarn is formed by twisting together two or more plied yarns. Ropes and cables are manufactured by balancing the twist relationships among single, plied, and corded yarns. Fiber-producing companies generally only produce a limited number of yarn types and sizes, called "producer's yarns." Depending on end-use specifications, producer's yarns may be converted into yarns of proper weight, twist, and ply by a yarn converter.

Staple, floc, and chopped fiber are derived by cutting continuous filament fiber into desired lengths.³⁹ Staple is produced by gathering together multiple filaments to form a bundle called tow, which is then precision-cut into uniform lengths (typically 3/4 inch to 6 inches). Crimp, which gives the fiber bulk, may or may not be added to the tow by applying steam and pressure to the filament fiber before cutting. Precision-length floc is also cut from a tow bundle, but the process involves specially-designed, precision equipment which cuts the filament fiber in lengths ranging from 1/25 inch to 1/4 inch. Chopped fiber is produced by cutting bulk filament fiber into random lengths (roughly 1/4 inch to 1/2 inch) using a guillotine-like method.

Staple used as feedstock for pulp is cut in much the same way as other staple,⁴⁰ although the fibers are typically 1/4 inch to 1/2 inch in length. In the production of wet pulp, staple is dispersed in water and fibrillated to form a slurry. The slurry is then formed into continuous sheets and dried to a 50-percent moisture content.⁴¹ In the production of dry pulp, wet pulp is separated into small pieces and dried to a ***-percent moisture content.⁴²

PPD-T nonwoven fabrics are produced by DuPont in the United States using a spunlacing process.⁴³ The production of spunlaced nonwovens involves constructing a fibrous web of staple fiber and subjecting the web to high-velocity water jets that entangle the fibers, forming the fabric.

Packaging depends on the fiber form and on the end use.⁴⁴ Filament yarn is wound onto bobbins or tubes. Filament yarn for tire cord may be rewound onto warp beams which hold 160 to

³⁶ Finishes are applied to the yarn to facilitate further processing of the fiber in its end-use applications (e.g., adhesive finishes for rubber reinforcement applications) and to increase properties of the fiber (e.g., increased abrasion resistance for cables and ropes).

³⁷ Denier is a measure of the thickness of yarn expressed as the weight in grams of 9,000 meters of yarn. The thickness is also expressed as decitex (dtex), which is defined as the weight in grams of 10,000 meters of yarn. 1 dtex = 0.9 denier.

³⁸ ***. Field trip to *** on July 15, 1993.

³⁹ Regular textile processing equipment, with some modification, may be used to cut staple.

⁴⁰ ***, DuPont has begun pilot production of pulp ***. Currently, DuPont contracts out the processing of staple and pulp to unrelated firms and Akzo further processes its own yarn at separate Akzo facilities.

⁴¹ Telephone conversation with ***, May 17, 1994.

⁴² Telephone conversation with ***, Mar. 17, 1994.

⁴³ Transcript of the hearing, p. 68. Commerce's scope of the investigation includes both spunlaced and spunbonded nonwovens. According to general textile definitions, spunlaced nonwovens are produced from staple fiber and spunbonded nonwovens are produced directly from the polymer solution. ***. Telephone conversation with ***, May 13, 1994.

⁴⁴ DuPont offers different size packages or specific lengths of yarn depending on customer specifications.

250 yarn ends.⁴⁵ Staple fiber is formed into bales, and floc is packaged in bags. Depending on customer specifications, pulp may be shipped wet or dry. Dry pulp is packaged in bags and wet pulp is formed into rolls that resemble rolls of paper. Nonwovens are packaged in rolls or on bolts.

U.S. Tariff Treatment

PPD-T aramid fiber is classified under several subheadings covering "nylon or other polyamides" in the HTS. The bulk of the U.S. imports of PPD-T aramid fiber from the Netherlands is believed to enter under the HTS subheadings and at the duty rates shown in the following tabulation:⁴⁶

	HTS <u>subheading</u>	Column 1-general rate of <u>duty (percent ad valorem)</u>
Filament yarn (single)	5402.10.30	10.0
	5402.32.30	10.0
Filament yarn (corded)	5402.10.60	9.1
	5402.32.60	9.1
Staple	5503.10.00	4.9
Floc, pulp, and chopped fiber	5601.30.00	4.9

In general, U.S. imports of PPD-T aramid filament yarn are subject to quantitative restraint under the Multifiber Arrangement (MFA),⁴⁷ which provides the international legal framework within which importing countries can negotiate agreements with exporting countries to limit their shipments of textiles and apparel. However, U.S. imports of textile and apparel products from the Netherlands are not subject to quantitative restraints under the MFA.

THE NATURE AND EXTENT OF SALES AT LTFV

On May 6, 1994, Commerce published in the *Federal Register* notice of its final determination regarding imports of PPD-T aramid fiber from the Netherlands.⁴⁸ In its final determination, Commerce found that the subject imports are being, or are likely to be, sold in the United States at LTFV, as provided in section 733 of the Act. The final margins are presented in the following tabulation (*in percent*):

⁴⁵ ***. Field trip to *** on July 15, 1993. Imported yarn from the Netherlands may be rewound onto beams in Akzo's facilities in the United States. Transcript of the conference, p. 116.

⁴⁶ The HTS subheadings presented for corded yarn, as well as other HTS subheadings that cover PPD-T aramid fiber in various forms, were not specifically identified in the petition or in Commerce's scope of the investigation.

⁴⁷ The MFA, formally known as the Arrangement Regarding International Trade in Textiles, is an international agreement negotiated under the auspices of the GATT. The MFA was implemented in January 1974 and was recently extended to Dec. 31, 1994.

⁴⁸ 59 F.R. 23684, May 6, 1994.

<u>Producer/manufacturer/exporter</u>	<u>Weighted-average margin</u>
Akzo	55.84
All others	55.84

Commerce determined that the product covered by its investigation constitutes a single "class or kind" and three "such or similar" categories of merchandise: yarn, staple fiber, and pulp.⁴⁹ In determining whether sales of the subject product to the United States were made at LTFV, Commerce compared the United States price (USP) to the foreign market value (FMV) during the period from January 1, 1993, through June 30, 1993, for each category of merchandise. Because all of Akzo's U.S. sales to the first unrelated purchaser took place after importation into the United States, USP was based on exporter's sales prices, which were based on packed, ex-U.S. warehouse and delivered prices to unrelated customers in the United States. Based on petitioner's allegations, Commerce initiated, on September 17, 1993, a sales-below-cost investigation to determine whether Akzo made home market sales at prices below its cost of production (COP). In instances where Commerce found that more than 90 percent of Akzo's sales of a given product were at prices below COP and were sold over an extended period of time, FMV was based on constructed value (CV).⁵⁰ For those products for which there were an adequate number of sales at prices above the COP, FMV was based on delivered prices, inclusive of packing, to unrelated customers in a third country.⁵¹

On November 11, 1993, the petitioner submitted a "critical circumstances" allegation with respect to imports of PPD-T aramid fiber from the Netherlands. In accordance with section 733(e)(1) of the Act, Commerce determined that critical circumstances do not exist with respect to the subject imports.

In accordance with section 733(d)(1) of the Act, Commerce directed the U.S. Customs Service (Customs) to suspend liquidation of all entries of the subject imports that are entered, or withdrawn from warehouse, for consumption on or after December 16, 1993, and to require a cash deposit or the posting of a bond equal to the dumping margin.

THE U.S. MARKET

The information presented in the body of this report is for all PPD-T aramid fiber, except where noted. Presented as appendixes to this report are summary tables containing data presented in the body of this report (appendix C) and separate data concerning PPD-T aramid yarn, staple,⁵² pulp, nonwovens,⁵³ "export polymer",⁵⁴ and chemical ingredients (appendix D). The period for which data were collected in this investigation is from January 1991 through December 1993.

⁴⁹ Akzo is not a producer or exporter of PPD-T aramid nonwovens. Transcript of the conference, p. 106.
⁵⁰ CV was calculated based on the sum of Akzo's cost of materials, fabrication, general expenses, and U.S. packing.
⁵¹ Commerce found that the home market was not viable for any of the three "such or similar" categories; therefore, Germany was selected as a third country market for sales of yarn and staple fiber and Japan was selected for sales of pulp.
⁵² For the purpose of this report, staple includes staple fiber, floc, and chopped fiber.
⁵³ For the purpose of this report, nonwovens include only spunlaced nonwovens composed of PPD-T aramid fiber.
⁵⁴ "Export polymer" is U.S.-produced polymer transferred to DuPont's foreign affiliates for spinning into yarn. Transcript of the conference, p. 45.

U.S. Producer

DuPont, founded in 1802 and incorporated in 1915, is a major global corporation headquartered in Wilmington, DE. It is the only U.S. producer of PPD-T aramid fiber⁵⁵ and is one of the leading chemical producers worldwide, with operations in approximately 70 countries. The company has five principal business segments: chemicals, fibers, polymers, petroleum, and diversified businesses (agricultural products, electronics, imaging systems, and medical products). The firm has more than 225 manufacturing facilities and approximately 90 businesses that manufacture and sell a wide range of products to numerous markets. DuPont's major worldwide markets include aerospace, chemicals, energy, transportation, textile, construction, automotive, electronics, printing, health care, packaging, and agriculture. The corporate total net sales in fiscal year 1993 were \$37 billion, compared with its U.S. PPD-T aramid fiber net sales in 1993 of ***.

DuPont owns and operates PPD-T aramid fiber spinning facilities in the United States and Northern Ireland and is part owner of a joint venture spinning facility in Japan. In the United States, the primary ingredients needed for the production of PPD-T aramid fiber, i.e., PPD and TCL, are produced at its Pontchartrain facility in La Place, LA, and its Chambers Works facility in Deepwater, NJ, respectively. DuPont's PPD-T aramid polymer is produced, and the PPD-T aramid yarn is spun, at its production facility located near Richmond, VA. Other products, such as Nomex®, Teflon®, Mylar®, and Tyvek®,⁵⁶ are also produced at the Richmond facility, ***.

As previously stated, DuPont produces the PPD-T polymer and spins the yarn at its Richmond facility. This yarn is either sold as a finished product for use in markets such as composites, fiber optic cables, and mechanical rubber goods, or is further processed into staple, pulp, or other products. DuPont indicated that the bulk of the unique properties and investment in PPD-T aramid fiber lies in the production of the polymer and the spinning of the yarn.⁵⁷ Akzo argues, however, "that many of the essential properties required by specific end-use applications are imparted only by means of further manufacturing yarn into staple fiber or pulp."⁵⁸

The further processing needed to produce staple and pulp from the spun yarn is performed for DuPont for a fee by four unrelated subcontractors, whereas the further processing needed to produce nonwovens is performed by DuPont from subcontracted staple. (See appendix E for information submitted by these subcontractors.) DuPont's subcontractors, their positions on the petition, locations, and the operations they perform on the form of Kevlar® they receive are presented in the following tabulation:

⁵⁵ DuPont produces PPD-T aramid polymer, yarn, and nonwovens in-house. The production of PPD-T aramid staple and pulp are produced for DuPont by subcontractors.

⁵⁶ Nylon® was also produced by DuPont at its Richmond facility ***. ***. Conversations with *** on July 15, 1993, and Mar. 18, 1994.

⁵⁷ Transcript of the conference, p. 11.

⁵⁸ Akzo's postconference brief, p. 8.

<u>Firm</u>	<u>Position on the petition</u>	<u>Location</u>	<u>Operation</u>
***	***	***	***
William Barnet & Son, Inc. (Barnet)	***	***	Converts yarn into staple (finished product and feedstock for pulp)
Hollingsworth & Vose (H&V)	Oppose	Walpole, MA	Converts staple into wet pulp (finished product and feedstock for dry pulp)
Minifibers, Inc. (Minifibers)	***	***	Converts wet pulp into dry pulp (finished product)

Presented in figure 2 is a diagram of stages in the production process from polymer to each of the forms of PPD-T aramid fiber. Indicated for each form of the fiber presented in figure 2 are the U.S. producers and 1993 data concerning DuPont's average per-pound cost of production and percentage value added.

DuPont owns certain equipment used in its subcontracted production of Kevlar® staple and pulp at ***. This includes equipment used in the production and testing of staple and pulp, computers used to manage production inventory, and certain office furniture and fixtures.⁵⁹ DuPont indicated that in addition to owning some of the equipment used to process yarn into pulp and staple, it "exercises close supervision over the subcontractors' operations, utilizes its regular manufacturing, planning and inventory systems, maintains ownership of the product, and uses its own marketing and sales force to sell pulp and staple to its customers."⁶⁰ The firm also indicates ***.⁶¹

Future plans of DuPont include the in-house manufacturing of wet and dry pulp. The firm expects that it will complete initial production and sampling of in-house pulp by *** and that by ***, all pulp needs will be manufactured in-house by DuPont ***.⁶² In addition, DuPont indicated ***.⁶³

In *** 1988, DuPont began production of PPD-T aramid fiber yarn at its wholly-owned spinning facility in Maydown, Northern Ireland. This plant, ***, has an annual capacity of ***. In ***, production began at a PPD-T aramid fiber spinning facility in Tokai, Japan, ***. This facility, a joint venture with Toray Industries of Japan, has an annual capacity of ***. Both the Northern Ireland and Japanese plants spin PPD-T aramid fiber yarn exclusively from polymer produced at

⁵⁹ A list of DuPont-owned equipment at its subcontractors is presented as exhibit II to DuPont's posthearing brief. DuPont's posthearing brief, p. 49.

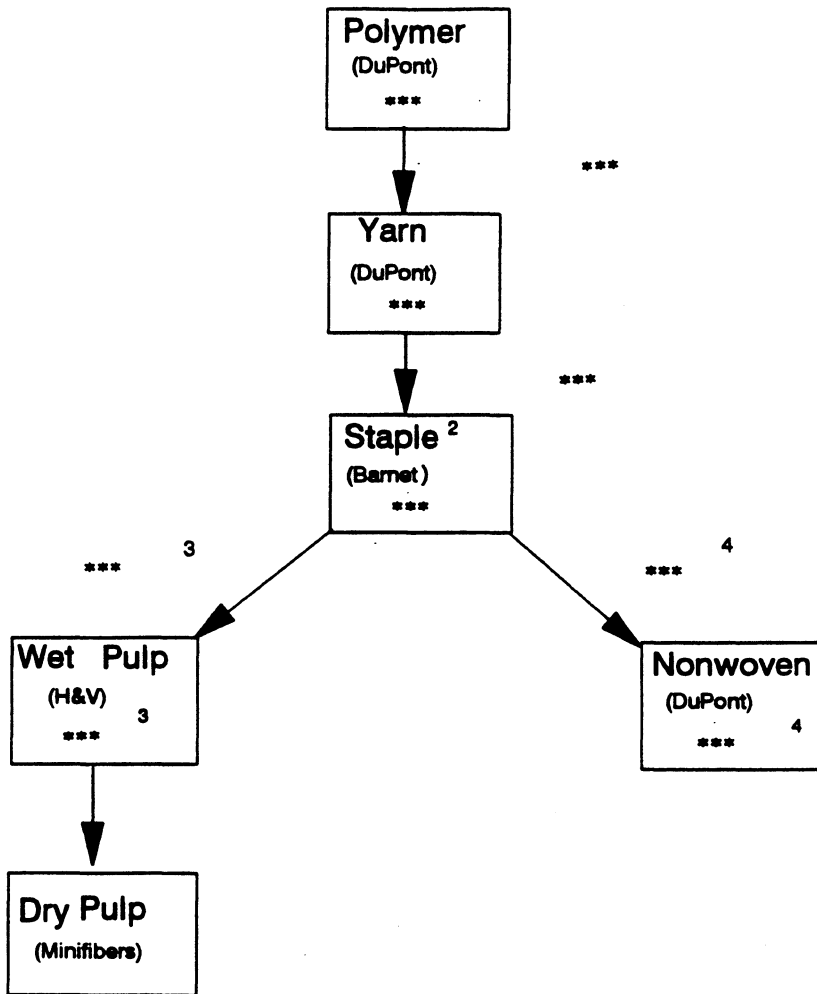
⁶⁰ DuPont's postconference brief, p. 9.

⁶¹ DuPont's postconference brief, annex C.

⁶² In the original plan, DuPont anticipated ***. DuPont's posthearing brief, Part II, pp. 49-50.

⁶³ Conversations with ***, July 26, 1993, and Mar. 18, 1994.

Figure 2
 PPD-T aramid fiber production process, U.S. producers, DuPont's average per-pound cost of production and percentage value-added, 1993¹



¹ Cost of production and value-added data (adjusted for yield losses) were derived from DuPont's questionnaire response. DuPont produces polymer, yarn, and nonwovens in-house, but subcontracts out the production of staple and pulp. Therefore, DuPont's cost of production and value-added data for staple, pulp, and nonwovens include the profits or losses of the subcontractors. Data submitted by DuPont's subcontractors are presented separately in app. E.

² Includes staple fiber, chopped fiber, and floc.

³ Cost of production and value-added data are for all pulp (including wet and dry). The value added to DuPont's yarn by the subcontractors (staple and pulp converters) in the production of pulp is *** percent.

⁴ The cost of production and value-added data may appear to be ***. The value added to DuPont's yarn by the subcontractors (staple converters) and DuPont (nonwovens business unit) in the production of nonwovens is *** percent.

Source: Compiled from data submitted by DuPont.

DuPont's Richmond facility.⁶⁴ Presented as appendix F to this report is information collected on DuPont's foreign affiliates.

During the period for which data were collected in this investigation, DuPont imported into the United States a small amount of PPD-T aramid yarn spun at its Northern Ireland plant from U.S.-produced polymer, ***. DuPont also imported yarn produced by its joint venture in Japan. ***.⁶⁵ In addition to DuPont's transfers of PPD-T aramid polymer and fiber to its Northern Ireland and Japanese entities, DuPont exported PPD-T aramid fiber in the form of yarn, staple, pulp, and nonwovens to customers in ***.

U.S. Importers

The Commission sent questionnaires requesting information concerning the U.S. imports of PPD-T aramid fiber to the petitioner, DuPont, and to the respondent, Akzo. Akzo Fibers, Inc., Conyers, GA, a subsidiary of the corporate headquarters located in the Netherlands, is responsible for the importation into the United States of all PPD-T aramid fiber produced in the Netherlands.

Both DuPont and Akzo provided complete responses to the Commission's request for import data. These data, as presented throughout this report, are believed to account for all U.S. imports of the subject product from all countries. Commerce's official import statistics are not presented because the tariff classification numbers under which the subject product falls contain additional products and the list of tariff classification numbers may not be complete.⁶⁶

Channels of Distribution

All PPD-T aramid fiber produced in the United States and in the Netherlands is typically sold in the United States directly to unrelated end users (or through their converters) for use in a variety of markets. For additional information concerning end uses, see the sections of this report entitled "Description," "Uses," "Apparent U.S. Consumption," and "U.S. Market Penetration by the Subject Imports." For additional information concerning channels of distribution and other factors affecting demand, see the section of this report entitled "Marketing Characteristics."

Apparent U.S. Consumption

Data concerning apparent U.S. consumption of PPD-T aramid fiber are calculated based on U.S. shipments of PPD-T aramid fiber as reported by DuPont and Akzo. The data concerning all

⁶⁴ Akzo argues that DuPont's additional capacity and production in Ireland and Japan have had a "substantial negative impact on the firm's U.S. operations," since the markets in those regions were previously supplied by Kevlar[®] produced in the United States. Transcript of the conference, pp. 90-92; Akzo's postconference brief, pp. 24-25; and Akzo's prehearing economic submission, pp. 36-39. DuPont explains that the investments in spinning operations in Ireland and Japan were made because "customers often require a supplier to be nearby, in order to provide on-site services and quality assurance. Moving some of its spinning operations offshore will allow DuPont to increase its sales of Kevlar[®] offshore, particularly for those customers who have requirements favoring local production and service." In addition, DuPont rebuts Akzo's assertion by indicating that it ***. DuPont's economic appendix to prehearing brief, p. 44, and DuPont's posthearing brief, p. 11.

⁶⁵ The materials imported ***. ***.

⁶⁶ DuPont indicated that it believes the majority of Akzo's Twaron[®] enters the United States under the numbers previously provided; however, some imports may enter the United States under other numbers. Conversation with ***, July 15, 1993.

PPD-T aramid fiber are presented in table 2 and figure 3. Consumption data by end use are presented in appendix G.

Table 2

PPD-T aramid fiber: U.S. shipments of U.S. product, U.S. shipments of imported product, and apparent U.S. consumption, 1991-93

* * * * *

Figure 3

PPD-T aramid fiber: U.S. shipments of U.S. product, U.S. shipments of product from the Netherlands, and apparent U.S. consumption, 1991-93

* * * * *

Despite overall increases in several end-use markets (i.e., ***), apparent U.S. consumption declined overall. The quantity of apparent U.S. consumption of PPD-T aramid fiber fell by *** percent from 1991 to 1992, but increased by *** percent in 1993. The trend in consumption by value was similar to that by quantity, although unit values generally fell. The overall decline in consumption was accounted for primarily by declines in the U.S. military,⁶⁷ ***, although a smaller decline was also reported in the *** market.⁶⁸

CONSIDERATION OF ALLEGED MATERIAL INJURY

Data presented in this section of the report are for PPD-T aramid fiber as provided by DuPont.⁶⁹ These data consist of U.S.-produced PPD-T aramid fiber in the form of yarn produced by DuPont in the United States⁷⁰ and staple and pulp produced from PPD-T aramid yarn for DuPont by its U.S. subcontractors. Nonwovens are produced from PPD-T aramid staple by another business unit within the DuPont corporation and are included in the data as company transfers of staple. The data presented do not include a small amount of PPD-T aramid polymer produced in the United States by DuPont and transferred as polymer to foreign affiliates in Japan and Northern Ireland for

⁶⁷ Because of "Buy America" provisions, DuPont was the exclusive supplier of the product in this market.

⁶⁸ A decline in consumption was also reported in the *** category. Products included in this category are ***.

⁶⁹ Data received in this investigation concerning yarn, staple, pulp, nonwovens, export polymer, and chemical ingredients are presented separately in app. D. Because of doublecounting, the data presented in the body of this report cannot be derived directly from the data presented separately for each of these items in the appendix.

⁷⁰ The scope of Commerce's investigation includes single filament yarn, as well as corded yarn. According to DuPont, it does not cord the yarn that it produces; however, it does produce a yarn product which is composed of several strands of supply yarn loosely twisted together to provide a thicker denier yarn. Corded yarn is included in the data presented only as single yarn reported by DuPont. Cording of PPD-T aramid yarn is performed in the United States by Kevlar® and Twaron® purchasers or their subcontractors as an intermediate step in the production of an end product. Although data were requested from these purchasers, no data were received concerning U.S. cord production. Staff estimates based on questionnaire data and telephone conversations with DuPont officials that approximately *** percent of PPD-T aramid fiber sold in the United States in 1993 was corded by these purchasers.

spinning into yarn;⁷¹ however, pulp produced in the United States by DuPont's subcontractors from yarn spun by DuPont's foreign affiliates is included in the data as U.S.-produced pulp.

U.S. Capacity and Production

Data concerning DuPont's U.S. capacity, production, and capacity utilization for PPD-T aramid fiber are presented in table 3. DuPont, which has the capacity to produce PPD-T aramid polymer, yarn, and nonwovens,⁷² calculated its capacity to produce PPD-T aramid fiber based on the constraints of its spinning facility operating *** hours per week, *** weeks per year.⁷³

Table 3
PPD-T aramid fiber: U.S. capacity, production, and capacity utilization, 1991-93

* * * * *

As reported, DuPont's average capacity to produce PPD-T aramid fiber increased *** from 1991 to 1992. This increase, according to DuPont, was the result of ***. While capacity increased in 1992, production of PPD-T aramid fiber fell by *** percent, resulting in a *** drop in capacity utilization from *** percent in 1991 to *** percent in 1992. A constant capacity reported from 1992 to 1993, along with a *** increase in production, resulted in a capacity utilization increase of ***.

U.S. Producer's Shipments⁷⁴

Shipments of U.S.-produced PPD-T aramid fiber are presented in table 4. Despite overall increases in several end-use markets (i.e., ***), DuPont's U.S. shipments of Kevlar[®] declined overall. From 1991 to 1993, DuPont's U.S. shipments of PPD-T aramid fiber, by quantity and value, fell by *** percent and *** percent, respectively. Declines in U.S. shipments of Kevlar[®] were most evident in the *** markets, although smaller declines were also reported in the *** markets. DuPont's total shipments of PPD-T aramid fiber, by quantity and value, followed a similar trend as the firms' U.S. shipments, although the percentage declines were ***.

Table 4
PPD-T aramid fiber: Shipments of U.S.-produced product, 1991-93

* * * * *

⁷¹ The foreign transfers of polymer by DuPont are presented separately in app. D. Yarn spun in Northern Ireland and sold as finished yarn in the United States, which represented *** percent of total U.S. production of PPD-T aramid fiber throughout the period of investigation, was reported as imports and was not included as U.S. production.

⁷² DuPont is currently producing trial quantities of pulp; however, no commercial quantities have as yet been produced in-house. During the period for which data were collected in this investigation, all staple and pulp was produced for DuPont by unrelated subcontractors.

⁷³ DuPont's annual U.S. capacity to produce PPD-T aramid polymer is ***.

⁷⁴ ***.

U.S. Producer's Inventories

End-of-period inventories of PPD-T aramid fiber held by DuPont are presented in table 5. These inventories fell throughout 1991-93, both absolutely and in relation to total shipments and production. From 1991 to 1992, DuPont's inventories fell by *** percent and a decline of *** percent was reported in 1993. In addition, the ratios of inventories to total shipments and production declined in 1993 to *** of the ratios reported in 1991.

Table 5
PPD-T aramid fiber: U.S. producer's end-of-period inventories, 1991-93

* * * * *

U.S. Employment, Wages, and Productivity

DuPont indicated that its production and related workers who produce PPD-T aramid fiber are represented by the following unions: Amphill Rayon Workers, Inc. and the International Brotherhood of Electrical Workers. Although other products are produced at DuPont's Richmond facility, DuPont indicated that the workers employed in the production of PPD-T aramid fiber ***.

DuPont's employment data are presented in table 6.⁷⁵ These data indicate a reduction in employment of *** percent from 1991 to 1993. DuPont explained that these *** reductions during the period of the investigation were caused by a reduction in production resulting from an increase in imports of PPD-T aramid fiber from the Netherlands. Overall declines were also reported for hours worked, wages paid, and total compensation paid to employees producing PPD-T aramid fiber. Hourly wages and hourly total compensation paid to such employees, as well as unit labor costs, increased overall, while productivity generally fell.

Table 6
Average number of U.S. production and related workers producing PPD-T aramid fiber, hours worked, wages and total compensation paid to such employees, and hourly wages, productivity, and unit labor costs, 1991-93

* * * * *

⁷⁵ Employment data presented include only those workers employed by DuPont's Kevlar® business unit in the production of PPD-T aramid polymer and yarn (***). These data do not include workers employed by DuPont's nonwovens business, staple and pulp subcontractors, and chemicals business. These data are presented separately in app. D. The total numbers of workers employed in the production of PPD-T aramid fiber in the form of yarn, staple, pulp, and nonwovens (excluding polymer ingredients and export polymer) are: ***. The total hours worked are (*in thousands of hours*): ***. The total compensation paid to these workers are (*in thousands of dollars*): ***.

Financial Experience of DuPont

DuPont provided income-and-loss and cost-of-production data on its U.S. operations on PPD-T aramid fiber, including separate cost-of-production data for PPD-T aramid fiber in the form of yarn, staple, pulp, and nonwovens. DuPont also provided data on its overall establishment operations, which consisted of data on its U.S. Kevlar® manufacturing operations that include polymer sales to foreign affiliates as well as fiber sales. Since the only difference between the overall establishment and PPD-T aramid fiber income-and-loss is the *** included in the overall establishment data, a separate overall establishment income-and-loss table is not presented. Additionally, such data are compiled on the basis of internal reporting procedures that are not in conformity with generally accepted accounting principles (GAAP) traditionally used and required by the Commission for reporting financial information. Data on operations of all products manufactured on the plant site where Kevlar® is produced were not provided.

PPD-T Aramid Fiber Operations

The income-and-loss data of Dupont on its U.S. PPD-T aramid fiber yarn operations are presented in table 7 and its cost-of-production data are presented in table 8. Major components of cost of goods sold are presented in table 9 and major components of selling, general, and administrative (SG&A) expenses are presented in table 10. Cost-of-production data for PPD-T aramid fiber in the form of staple, pulp, and nonwovens are presented in appendix H.

Table 7

Income-and-loss experience of DuPont on its operations producing PPD-T aramid fiber, fiscal years 1991-93

* * * * *

Table 8

Costs of production of DuPont on its production of PPD-T aramid fiber, fiscal years 1991-93

* * * * *

Table 9

Major components of cost of goods sold of DuPont on its PPD-T aramid fiber operations, fiscal years 1991-93

* * * * *

Table 10

Major components of SG&A expenses of DuPont on its PPD-T aramid fiber operations, fiscal years 1991-93

* * * * *

The major expenses of factory overhead are shown in the following tabulation (*in thousands of dollars*):

* * * * *

The major SG&A expenses are shown in the following tabulation (*in thousands of dollars*):

* * * * *

The total net sales value of PPD-T aramid fiber declined by *** percent from 1991 to 1993. During the same period, total net sales in pounds declined by *** percent. Contributing to the decreasing revenues and volume are the ***. Such *** account for *** of the total revenues and *** of the volume during 1991-93. Details of the sales are shown in the following tabulation (*quantities in 1,000 pounds and value in 1,000 dollars*):

* * * * *

DuPont indicated that the ***.⁷⁶ DuPont reported income in each year. Adjusted to GAAP requirements, i.e., full absorption costing, the operating income was ***. DuPont's conversion of direct costing to GAAP is shown in the following tabulation (*in millions of dollars*):

* * * * *

DuPont's average net sales value per pound ***. Using fully absorbed costs (GAAP), the average cost of goods sold per pound ***. The average SG&A expenses per pound ***. DuPont attributes these *** in the average costs and expenses per pound to the ***.

DuPont indicated that costs are essentially *** and data reported on PPD-T aramid fiber are according to DuPont's *** reports.⁷⁷ The *** reporting methodology is on the basis of ***, which in this instance, produced significant differences from GAAP because of dissimilar application of ***. The differences are magnified when there are substantial changes in ***. DuPont's reconciliation of the two methodologies was used for converting the cost of goods sold to a GAAP basis.

The fixed and variable costs as a share of cost of goods sold in 1993 are shown in the following tabulation (*in percent*):

⁷⁶ Telephone conversation with ***, Mar. 14, 1994.

⁷⁷ Telephone conversation with ***, Mar. 14, 1994.

* * * * *

Investment in Productive Facilities

The investment in property, plant, and equipment and return on investment for DuPont on its U.S. PPD-T aramid fiber operations are shown in table 11. The return on total assets followed generally the same trend as did the ratios of operating and net income to total net sales during the reporting periods.

Table 11
Value of assets and return on assets of DuPont on its PPD-T aramid fiber operations as of Dec. 31, 1991-93

* * * * *

Capital Expenditures

Capital expenditures by DuPont on its U.S. PPD-T aramid fiber operations are shown in table 12. The capital expenditures declined by *** percent from 1991 to 1993. DuPont has made ***.

Table 12
Capital expenditures by DuPont for PPD-T aramid fiber, fiscal years 1991-93

* * * * *

Research and Development

Research and development expenses by DuPont on its U.S. PPD-T aramid fiber operations are shown in table 13.

Table 13
Research and development expenses of DuPont, fiscal years 1991-93

* * * * *

Capital and Investment

The Commission requested DuPont to describe any actual or potential negative effects of imports of PPD-T aramid fiber from the Netherlands on its growth, investment, ability to raise capital, or existing development and production efforts (including efforts to develop a derivative or improved version of PPD-T aramid fiber). DuPont's response is presented below.

Actual negative effects

* * * * *

Anticipated negative effects

* * * * *

**CONSIDERATION OF THE QUESTION OF
THREAT OF MATERIAL INJURY**

Section 771(7)(F)(i) of the Act (19 U.S.C. § 1677(7)(F)(i)) provides that--

In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the merchandise, the Commission shall consider, among other relevant economic factors⁷⁸--

- (I) If a subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the subsidy is an export subsidy inconsistent with the Agreement),
- (II) any increase in production capacity or existing unused capacity in the exporting country likely to result in a significant increase in imports of the merchandise to the United States,
- (III) any rapid increase in United States market penetration and the likelihood that the penetration will increase to an injurious level,
- (IV) the probability that imports of the merchandise will enter the United States at prices that will have a depressing or suppressing effect on domestic prices of the merchandise,
- (V) any substantial increase in inventories of the merchandise in the United States,
- (VI) the presence of underutilized capacity for producing the merchandise in the exporting country,
- (VII) any other demonstrable adverse trends that indicate the probability that the importation (or sale for importation) of the merchandise (whether or not it is actually being imported at the time) will be the cause of actual injury,

⁷⁸ Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that "Any determination by the Commission under this title that an industry in the United States is threatened with material injury shall be made on the basis of evidence that the threat of material injury is real and that actual injury is imminent. Such a determination may not be made on the basis of mere conjecture or supposition."

(VIII) the potential for product-shifting if production facilities owned or controlled by the foreign manufacturers, which can be used to produce products subject to investigation(s) under section 701 or 731 or to final orders under section 706 or 736, are also used to produce the merchandise under investigation,

(IX) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both), and

(X) the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the like product.⁷⁹

Information on the volume, U.S. market penetration, and pricing of imports of the subject merchandise (items (III) and (IV) above) is presented in the section entitled "Consideration of the Causal Relationship Between Imports of the Subject Merchandise and the Alleged Material Injury" and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts (item (X)) is presented in the section entitled "Consideration of Alleged Material Injury." Available information on U.S. inventories of the subject products (item (V)); foreign producers' operations, including the potential for "product-shifting" (items (II), (VI), and (VIII) above); any other threat indicators, if applicable (item (VII) above); and any dumping in third-country markets, follows. Other threat indicators have not been alleged or are otherwise not applicable.

U.S. Importers' Inventories

Data concerning U.S. inventories of PPD-T aramid fiber produced in the Netherlands are presented in table 14.⁸⁰ The quantity of these year-end inventories *** in 1991 to *** in 1992, *** in 1993. The ratio of inventories to total shipments *** throughout 1991-93.

⁷⁹ Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, ". . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other GATT member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

⁸⁰ These data do not include the following end-of-period inventories warehoused by Akzo in Canada (*in 1,000 pounds*): ***. *** of the Twaron® held in Akzo's Canadian warehouse was shipped to the United States during the period of the investigation and is included in the import data for the Netherlands.

Table 14

PPD-T aramid fiber: End-of-period inventories of product produced in the Netherlands, 1991-93

* * * * *

DuPont imported for sale minor amounts of Kevlar® yarn spun at the firm's Northern Ireland facility from U.S.-produced polymer.⁸¹ Inventory data concerning these imports are presented in the following tabulation (*in 1,000 pounds*):

* * * * *

Ability of Producers in the Netherlands to Generate Exports and the Availability of Export Markets Other Than the United States

Aramide, a joint venture established in the Netherlands by NOM and a subsidiary of Akzo,⁸² is the only foreign producer of the subject product. Aramide produces PPD-T aramid polymer at its facility in Delfzijl.⁸³ PPD-T aramid fiber in the form of yarn and staple are produced at Aramide's Emmen facility, pulp is produced at its Arnhem facility,⁸⁴ and PPD-T aramid yarn is corded by Aramide at its facility in ***. Aramide does not produce nonwovens composed of PPD-T aramid fiber. Aramide manufactures only PPD-T aramid fiber products in the Netherlands;⁸⁵ however, its parent corporation, Akzo, is a multinational firm with five divisions operating in 50 countries. Its principal products include salt and chemicals, fibers and polymers, coatings, and health care.

Aramide supplied data concerning its PPD-T aramid fiber production, inventories, and shipments.⁸⁶ These data are shown in table 15. Aramide's reported capacity, which is determined by the firm's capacity to spin yarn, is based on operating *** hours per week, *** weeks per year. As shown, the firm's capacity and production of PPD-T aramid fiber *** during all periods for which information was requested, while capacity utilization, ***.

Table 15

PPD-T aramid fiber: The Netherlands' capacity, production, capacity utilization, end-of-period inventories, and shipments, 1991-93 and projected 1994-95

* * * * *

In answer to a question on whether or not the firm plans to add, expand, curtail, or shut down production capacity and/or production of PPD-T aramid fiber in the Netherlands, Aramide responded as follows:

⁸¹ ***.

⁸² Aramide is currently 95 percent owned by Akzo, effective Dec. 31, 1993.

⁸³ The primary chemicals used in the production of PPD-T aramid polymer are produced ***.

⁸⁴ ***. Akzo's postconference brief, app. A, p. 7, and telephone conversation with Akzo's counsel on Mar. 15, 1994.

⁸⁵ Aramide indicated that *** percent of its total sales in the most recent fiscal year was represented by sales of product subject to this investigation. The remaining *** percent was comprised of the following ***.

⁸⁶ ***.

Inventories held in the Netherlands *** from 1991 to 1993 both absolutely and in relation to production and total shipments. Projections indicate that this trend is expected to *** through 1995.

Aramide's exports of PPD-T aramid fiber to the United States⁸⁸ *** in quantity from 1991 to 1992, but *** by *** percent in 1993. The firm projects that exports to the United States will generally *** and that exports to all other markets (principally ***) will *** in terms of quantity and as a share of total shipments. Akzo explains that one of the reasons for the projected *** in exports to the United States in 1994 and 1995 is ***.⁸⁹ The firm's projection of growth in markets outside the United States is based on (1) the increasing replacement of asbestos by aramid fiber, especially in Japan and (2) an increase in the demand for yarn in the civilian ballistics market segment, which is driven by worldwide regional conflicts and the need for personal protection.⁹⁰

CONSIDERATION OF THE CAUSAL RELATIONSHIP BETWEEN IMPORTS OF THE SUBJECT MERCHANDISE AND THE ALLEGED MATERIAL INJURY

U.S. Imports

DuPont and Akzo provided complete import data in response to the Commission's request. These data are presented in table 16.⁹¹ Akzo reported U.S. imports of PPD-T aramid fiber in the form of yarn (single and corded), staple, and pulp. The quantity of U.S. imports of PPD-T aramid fiber from the Netherlands *** in 1991 to *** in 1992, but *** in 1993 to ***.⁹² Unit values, which may be affected by product mix, *** by *** percent from 1991 to 1993.

Table 16
PPD-T aramid fiber: U.S. imports, by sources, 1991-93

* * * * *

Akzo indicated that in ***, it imported *** pounds of PPD-T aramid fiber into the United States, *** of which was ***. Akzo also indicated ***.

U.S. imports of DuPont's Kevlar® yarn spun in Northern Ireland from polymer produced in the United States represented *** of total U.S. production of PPD-T aramid fiber during the period of the investigation. These data consist of yarn imported and sold in the United States as a finished

⁸⁷ Aramide asserts that its "planned expansion of aramid production capacity is intended and expected to serve rapidly growing demand outside the United States." Akzo's prehearing economic submission, p. 56.

⁸⁸ A certain amount of Twaron® was exported to Canada and warehoused there for sale to customers primarily in Canada and the United States. These Canadian exports were included in the line item entitled "Exports to all other markets" of table 15.

⁸⁹ Transcript of the hearing, p. 218. ***, DuPont asserts that Akzo's projections of *** shipments to the United States should be met with skepticism. DuPont's posthearing brief, p. 11.

⁹⁰ Transcript of the hearing, pp. 219-220, and Akzo's prehearing economic submission, pp. 58-59.

⁹¹ ***. Data submitted by both Akzo and DuPont have been verified by the Commission.

⁹² The data include the following transshipments through Canada (*in 1,000 pounds*): ***. In addition, Akzo's imports into the United States were limited by terms of a cross-licensing agreement with DuPont from May 1988 to March 1992. For more information concerning the agreement, see the section of this report entitled "Product History."

yarn product. The import data, however, do not include yarn imports consumed in the U.S. production of pulp. These data were reported in DuPont's producer's questionnaire response as U.S.-produced pulp and are included in the section of this report entitled "Consideration of Alleged Material Injury." Presented in the following tabulation are DuPont's imports of yarn spun by its foreign affiliates that were consumed in the U.S. production of pulp.⁹³

* * * * *

U.S. Market Penetration by the Subject Imports

Market penetration data are calculated from U.S. shipment data of U.S.-produced and imported PPD-T aramid fiber as submitted in response to Commission questionnaires. These data are presented in table 17 and figure 4. Market penetration data based on quantity, by end use, are presented in appendix G.

Table 17
 PPD-T aramid fiber: U.S. shipments of domestic and imported product as a share of apparent U.S. consumption, 1991-93

* * * * *

Figure 4
 PPD-T aramid fiber: Shares of the quantity and value of apparent U.S. consumption held by the United States and the Netherlands, 1991-93

* * * * *

The share of apparent U.S. consumption of PPD-T aramid fiber held by imports of Twaron[®], by quantity, increased from *** percent in 1991 to *** percent in 1993, while the share held by Kevlar[®] fell from *** percent in 1991 to *** percent in 1993. Twaron's[®] increasing share of the market from 1991 to 1993 was evident in the following markets: ***.

Prices

Marketing Characteristics

Demand for PPD-T aramid fiber is derived from the demand for the products using PPD-T aramid fiber. PPD-T aramid fiber is used in a variety of end uses including tires, high-pressure automobile and industrial hoses, power transmission and conveyor belts, ship mooring lines and working ropes, fiber optic cables, electromechanical and crane cables, automotive brakes, industrial and automotive gaskets, composites, industrial fabric, cut-resistant gloves, bullet-resistant vests, and

⁹³ ***.

other protective apparel. Depending on the application, PPD-T aramid fiber represents between approximately 2 percent and 85 percent of the cost of the end-use products.⁹⁴ The largest market for PPD-T aramid fiber is the *** market.

PPD-T aramid fiber suppliers typically sell their product directly to the end user or through converters who will weave, twist, or cord the product for the end user. For example, in the belts and hoses application, the supplier sells directly to the hose/belt manufacturer or to a yarn converter who will twist and treat the aramid fiber for use by the hose/belt manufacturer. Moreover, for some applications, suppliers will assist the downstream purchaser in the development of the end-use application and will offer a rebate to these downstream purchasers for purchases of their product. For example, for the aircraft composite application, the supplier will sell to a weaver, who will sell to a pre-preg manufacturer,⁹⁵ who will then sell to a parts manufacturer or directly to the aircraft manufacturer. Rebates will be offered to the downstream purchasers in this value distribution chain rather than the weaver. The weaver will typically charge a markup for its services to the price of the PPD-T aramid fiber.

PPD-T aramid fiber is priced on a per-pound basis except for nonwoven fabric, which is priced on a per-yard basis. PPD-T aramid fiber is generally sold on a ***. Although it is typically sold in three different forms (pulp, staple, and yarn),⁹⁶ PPD-T aramid fiber is primarily priced according to the end-use market to which it is sold. Pricing to these markets generally depends on the importance of PPD-T aramid fiber to the specific end-use product and whether there are other competing substitute products for the end-use application. PPD-T aramid fiber is priced the lowest for the ***, and is priced the highest for the ***. PPD-T aramid fiber is also priced differently according to the denier (or fineness) of the specific yarn or staple products.⁹⁷ The lower the denier of these products, the higher the price.

Competition is another factor that affects the price of PPD-T aramid fiber. Prices will tend to be lower if competitive factors exist in the marketplace. Some purchasers have commented that DuPont had increased its prices annually until 1992, when its protected patent position for PPD-T aramid fiber expired. These purchasers reported that the presence of Akzo in the marketplace has pressured DuPont to stabilize or lower pricing to compete against Akzo.⁹⁸

DuPont reported that its Kevlar® brand and DuPont's reputation constituted a competitive advantage over Akzo and its Twaron® brand of PPD-T aramid fiber. DuPont also cited its advanced technology and its technical knowledge of the end user and the end-use market as additional advantages that DuPont has over Akzo. DuPont reported that its average lead time is ***, whereas Akzo reported lead times of *** from its warehouse and *** for product from the Netherlands. Sales terms are typically *** for both the U.S. producer and importer; however, ***⁹⁹ *** reported that transportation costs *** in the sale of PPD-T aramid fiber and are *** of the price of the

⁹⁴ PPD-T aramid fiber typically represents between approximately 18 and 50 percent of the cost of brakes and friction materials, 10 and 50 percent of gaskets and seals, 3 and 16 percent of fiber optic cables, 2 and 15 percent of tires, 10 and 40 percent of belts and hoses, 55 and 85 percent of apparel and fabric, and 20 and 70 percent of nonwoven products.

⁹⁵ A pre-preg manufacturer will impregnate the PPD-T aramid fiber with an adhesive resin system for bonding composites.

⁹⁶ PPD-T aramid fiber is also available in nonwoven fabrics.

⁹⁷ There is no denier measurement of PPD-T aramid fiber pulp products.

⁹⁸ In its posthearing brief, DuPont reported ***. DuPont's posthearing brief, part II, p. 36. ***.

⁹⁹ ***.

product. ***.¹⁰⁰ Four purchasers reported that DuPont has offered special terms for existing inventory, whereas only one purchaser reported that Akzo had offered special terms for existing inventory.¹⁰¹

The Commission requested U.S. producers, importers, and purchasers to report whether they were ever unable to supply PPD-T aramid fiber to a customer in a timely manner at prevailing prices and in the quantities desired during January 1991-December 1993. *** during 1992-93. Akzo reported that its capability to supply product prior to March 1992 was restricted initially due to DuPont's patent and then due to the cross-license agreement with DuPont that ended in March 1992, when DuPont's patent expired. Only two of the responding purchasers reported problems with slow deliveries by DuPont during 1991-93.

Both DuPont and Akzo reported that they must qualify their PPD-T aramid fiber with the end users before making commercial sales. Product qualification is a major barrier for sales in the U.S. market. The qualification process includes laboratory testing, processing trial runs, and field testing. The time it takes to qualify a product typically ranges between 6 months and 2 years, depending on the end-use application. Some purchasers reported that qualification of a product may take up to 4 years. The qualification of a product is also costly, ranging up to \$250,000 for some end-use applications. Some purchasers contacted during the investigation reported that both DuPont and Akzo have helped defray some of the costs in the qualification/product-development process. These purchasers reported that supplier assistance was not unusual behavior in their respective businesses.

Some purchasers reported that because qualification is a long and costly process, they will typically work with potential new suppliers to qualify them for new products (or extensions of existing products) that do not duplicate the formula of the existing product. By developing these new products, purchasers will not have to requalify existing products with their downstream purchasers; rather they can work to qualify a future product with their downstream purchaser and not affect the sale of an existing product.

*** agreed that after the qualification of both firms' PPD-T aramid fiber, the U.S.- and the imported PPD-T aramid fiber are interchangeable for the specific application for which it had qualified. *** reported no significant difference in the quality of Kevlar® and Twaron®. However, Akzo reported ***. Akzo also contends ***.

Both DuPont and Akzo reported producing types of PPD-T aramid fiber that have no direct competition. Dupont reported *** products with little or no direct product competition from Akzo. These include ***. These products represented ***.¹⁰² DuPont also reported that the only type of PPD-T aramid fiber imported by Akzo that is not produced by DuPont is ***, though it adds *** is offered by DuPont for the same application. Akzo reported *** products with little or no direct product competition from DuPont. ***.¹⁰³ ***.¹⁰⁴ Akzo added that it does not import into the United States the following items that are offered by DuPont: ***.

¹⁰⁰ ***.

¹⁰¹ ***, Verification of ***, May 10, 1994.

¹⁰² This represented approximately *** percent of DuPont's total domestic shipments of PPD-T aramid fiber during 1993 by quantity and value, respectively.

¹⁰³ DuPont reported that it does compete against ***. ***.

¹⁰⁴ This represented approximately *** percent of Akzo's total domestic shipments of PPD-T aramid fiber during 1993 by quantity and value.

Long-term supply contracts

Akzo reported ***,¹⁰⁵ whereas DuPont reported ***,¹⁰⁶

* * * * *

Interchangeability of PPD-T aramid fiber product types

Akzo has argued that there are no specific end uses in which yarn, staple, pulp, or other major product types of PPD-T aramid fiber are interchangeable. It reported that the lack of interchangeability is natural because each of the major product types is highly distinct in form and product character. Akzo stated that these product types are also sold through different channels of distribution and are perceived as distinct products by the end users. For example, yarn is used in radial tires, composites, ropes and cables, and fiber optics; staple is spun and used in fabrics and for protective clothing; and pulp is used in brakes and gaskets. Akzo commented that although pulp is usable in tire applications and transmission belts, the pulp is used for different purposes than yarn for these applications.¹⁰⁷

Although DuPont agreed that a given application of PPD-T aramid fiber is typically designed around one type of PPD-T aramid fiber, it commented that there are many applications that will use more than one type of PPD-T aramid fiber. ***¹⁰⁸

Purchasers reported that more than one type of PPD-T aramid fiber is used in the friction material, gaskets and seals, belts and hoses, and apparel application categories, although not necessarily by the same purchaser or for the same end-use application. Although 5 of the responding 39 purchasers reported buying more than one type of PPD-T aramid fiber for their end-use applications, these purchasers reported that the fiber types are for different end-use applications.¹⁰⁹ Moreover, *** of the 38 purchasers reported that it can use more than one fiber type for its end-use application. ***. ***. Only 13 purchasers reported having some flexibility between grades of a specific fiber type for specific end-use applications. All other purchasers reported that the PPD-T aramid fiber form and its grade must be specific to their end-use application.

Substitute fibers and their effect on sales of PPD-T aramid fibers

DuPont and Akzo agree that there are a variety of substitute fibers for PPD-T aramid fiber for nearly all of its applications. However, when alternative materials are used, the performance and the cost are lowered. DuPont commented ***. Akzo, however, argues ***.¹¹⁰ Akzo commented ***. For this reason, Akzo reported ***.

Akzo reported ***. It argues that ***. Also, Akzo contends ***. Furthermore, ***.
***¹¹¹

¹⁰⁵ Akzo originally *** in its questionnaire. It has added ***.

¹⁰⁶ ***

¹⁰⁷ Moreover, in Akzo's "Twaron[®] for Hoses" brochure, all three fiber forms (yarn, staple, and pulp) are offered, although for different end-use applications. The yarn is used for strength and pulp is used for rubber reinforcement. Akzo reported that although some customers in Europe use staple for rubber reinforcement, its U.S. customers have only used pulp.

¹⁰⁸ DuPont's questionnaire response.

¹⁰⁹ These five purchasers are: ***.

¹¹⁰ *** reported that in general, ***. Telephone conversation, Aug. 2, 1993.

¹¹¹ Akzo also reported somewhat significant interfiber competition in ***.

Purchasers contacted during the investigation confirmed that other fibers have been intruding into some of the PPD-T aramid fiber applications. Twenty-five of the responding 39 purchasers reported alternative fibers besides PPD-T aramid fiber for their end-use applications. These applications include tires, gaskets, brakes, fiber optic cables, and apparel. For the tire market, substitute fibers include steel cord, fiberglass, nylon, and polyester. For the gasket market, substitute fibers include graphite, steel, paper, teflon, rubber, and asbestos. For the brake market, substitute fibers include acrylic and cellulose fibers. For the fiber optic cable market, substitute fibers include fiberglass, polyester yarn, and composites. For the apparel market, substitute fibers include fiberglass, graphite, and Spectra®. Some of these purchasers reported that although Akzo's prices are lower than those offered by DuPont, the prices are still significantly higher than the prices of the substitute fibers.¹¹²

The Commission requested both DuPont and Akzo to provide pricing for these alternative fibers cited during this investigation. DuPont provided pricing data on an annual basis for 34 alternative fibers, during 1988-94. Akzo provided pricing data in its questionnaire and prehearing brief for 15 alternative fibers, although it only provided price series for four alternative fibers. Appendix J presents the prices for these alternative fibers as well as pricing for the corresponding PPD-T aramid fiber.

The Commission also requested both DuPont and Akzo to identify whether any customer either phased out products that use PPD-T aramid fibers, redesigned their products to use less PPD-T aramid fibers, or planned to purchase other fibers in place of PPD-T aramid fiber due to price or other considerations. DuPont identified ***. DuPont reported ***. The *** product applications it cited are ***. DuPont reported that sales of Kevlar® to these purchasers represented approximately *** of its overall U.S. domestic shipments of Kevlar® during 1993, by volume and value, respectively.

DuPont reported that ***. *** reported to DuPont that Kevlar® ***. *** reported to DuPont that Kevlar® ***. *** reported to DuPont ***. *** reported to DuPont ***. *** reported to DuPont ***.¹¹³

Akzo identified *** who have stated that, to one degree or another, ***.¹¹⁴ The *** product applications include ***. These purchasers reported to Akzo ***.

The Commission also requested purchasers of PPD-T aramid fiber to report whether they had lost any sales of products that use PPD-T aramid fiber to products that use substitute fibers, and whether they had redesigned or planned to redesign any products from PPD-T aramid fibers to the other substitute fibers. Seventeen purchasers reported that they had either lost sales and/or redesigned or planned to redesign products.¹¹⁵ These purchasers use PPD-T aramid fiber in brakes, gaskets, pulling tapes in fiber optics cables, other ropes and cables, tires, composites, and apparel applications. Eleven purchasers reported that they had lost sales of their products that use PPD-T aramid fiber to products that use substitute fibers. Ten purchasers reported that they had redesigned their products away from PPD-T aramid fiber or lowered the amount of PPD-T aramid fiber and purchased other less expensive fibers.¹¹⁶ Moreover, 11 purchasers reported that they had plans to redesign their products away from PPD-T aramid fiber due to cost reasons.¹¹⁷

¹¹² Some purchasers also reported buying recycled PPD-T aramid fiber pulp for their end-use applications.

¹¹³ Carbon is selected for its performance characteristics; glass and other fibers are used to decrease cost.

¹¹⁴ ***.

¹¹⁵ The 17 purchasers accounted for 43 percent, by quantity, of the total purchases by the 39 responding U.S. purchasers and 32 percent, by quantity, of overall U.S. apparent consumption of PPD-T aramid fiber during 1993.

¹¹⁶ This includes six purchasers previously reporting lost sales due to alternative fibers.

¹¹⁷ Including 8 purchasers that already reported that they had redesigned some products away from PPD-T aramid fiber.

Questionnaire Price Data

The Commission requested quarterly price and quantity information from DuPont and Akzo for their sales of PPD-T aramid fiber during the period January 1991-December 1993. DuPont and Akzo were requested to provide price data for sales of 11 PPD-T aramid fiber products sold to 9 end-use markets. Three products are in pulp form (one wet), one is in staple form, six are in yarn form, and one is in nonwoven (spunlaced) form. Price data were requested for DuPont's and Akzo's largest two purchasers and total sales for each of the 11 products during 1991-93. The 11 products are described below:

Product 1: PPD-T aramid fiber in pulp form, wet, sold to gasket market (e.g., Kevlar® type 979 or Twaron® type 1097)

Product 2: PPD-T aramid fiber in pulp form, dry, sold to gasket market (e.g., Kevlar® type 979 or Twaron® type 1095)

Product 3: PPD-T aramid fiber in pulp form, dry, sold to dry friction (brakes) market (e.g., Kevlar® type 979 or Twaron® type 1095)

Product 4: PPD-T aramid fiber in staple form, sold to protective apparel market (e.g., Kevlar® type 970 or Twaron® type 1070)

Product 5: PPD-T aramid fiber in yarn form, regular/standard modulus (1680 dtex or 1500 denier), sold to tire market (e.g., Kevlar® type 950 or Twaron® type 1000)

Product 6: PPD-T aramid fiber in yarn form, regular/standard modulus (1680 dtex or 1500 denier), sold to hose/belts market (e.g., Kevlar® type 956 or Twaron® type 1000)

Product 7: PPD-T aramid fiber in yarn form, high modulus (1260 dtex or 1140 denier), sold to aircraft composite market (e.g., Kevlar® type 965 or Twaron® type 1056)

Product 8: PPD-T aramid fiber in yarn form, intermediate modulus (3220 dtex or 2840 denier), sold to fiber optic cable market (e.g., Kevlar® 68 yarn type 989b or Twaron® type 1111)

Product 9: PPD-T aramid fiber in yarn form, high modulus (3220 dtex or 2840 denier), sold to fiber optic cable market (e.g., Kevlar® 49 yarn type 989 or Twaron® type 1055)

Product 10: PPD-T aramid fiber in spunlaced form (e.g., Kevlar® type Z11)

Product 11: PPD-T aramid fiber in yarn form, high tenacity and intermediate modulus (930 dtex or 840 denier), sold to civilian ballistics market (e.g., Kevlar® 129 yarn type 964C or Twaron® CT)

Usable price data were received from both DuPont and Akzo. Dupont reported selling all 11 products whereas Akzo reported selling only 10 of these products.¹¹⁸ Reported pricing for these 11

¹¹⁸ Akzo reported that it did not sell *** in the U.S. market. Its sales of *** were very limited, while *** represented the largest volumes. DuPont's largest volumes were in ***.

products accounted for approximately *** percent of DuPont's domestic shipments of PPD-T aramid fiber and *** percent of Akzo's domestic shipments of PPD-T aramid fiber during 1993.¹¹⁹

Price trends

Delivered prices for the two largest purchasers of U.S.-produced PPD-T aramid fiber *** for which the Commission requested pricing information (figures 5-15).¹²⁰ Prices for most of the products *** to these purchasers through ***, ***. Prices to some purchasers ***. Overall, *** purchasers ended the period at *** prices, ***.

Figure 5
Delivered selling prices to the two largest purchasers of U.S.-produced and imported PPD-T aramid fiber product 1, by quarters, Jan. 1991-Dec. 1993

* * * * *

Figure 6
Delivered selling prices to the two largest purchasers of U.S.-produced and imported PPD-T aramid fiber product 2, by quarters, Jan. 1991-Dec. 1993

* * * * *

Figure 7
Delivered selling prices to the two largest purchasers of U.S.-produced and imported PPD-T aramid fiber product 3, by quarters, Jan. 1991-Dec. 1993

* * * * *

Figure 8
Delivered selling prices to the two largest purchasers of U.S.-produced and imported PPD-T aramid fiber product 4, by quarters, Jan. 1991-Dec. 1993

* * * * *

Figure 9
Delivered selling prices to the two largest purchasers of U.S.-produced and imported PPD-T aramid fiber product 5, by quarters, Jan. 1991-Dec. 1993

* * * * *

¹¹⁹ For DuPont, the largest two purchasers accounted for *** percent of total sales per quarter for product 1, *** percent for product 2, *** percent for product 3, *** percent for product 4, *** percent for product 5, *** percent for product 6, *** percent for product 7, *** percent for product 8, *** percent for product 9, *** percent for product 10, and *** percent for product 11. For Akzo, the largest two purchasers accounted for *** percent of total sales per quarter for products 1, 2, 4, 5, 7, 8, and 11. The largest two purchasers accounted for *** percent of total sales per quarter for product 3, *** percent for product 6, and *** percent for product 9.

¹²⁰ See app. K for price tables corresponding to the figures. Average prices for total sales of these products are also presented.

Figure 10
Delivered selling prices to the two largest purchasers of U.S.-produced and imported PPD-T aramid fiber product 6, by quarters, Jan. 1991-Dec. 1993

* * * * *

Figure 11
Delivered selling prices to the two largest purchasers of U.S.-produced and imported PPD-T aramid fiber product 7, by quarters, Jan. 1991-Dec. 1993

* * * * *

Figure 12
Delivered selling prices to the two largest purchasers of U.S.-produced and imported PPD-T aramid fiber product 8, by quarters, Jan. 1991-Dec. 1993

* * * * *

Figure 13
Delivered selling prices to the two largest purchasers of U.S.-produced and imported PPD-T aramid fiber product 9, by quarters, Jan. 1991-Dec. 1993

* * * * *

Figure 14
Delivered selling prices to the two largest purchasers of U.S.-produced PPD-T aramid fiber product 10, by quarters, Jan. 1991-Dec. 1993

* * * * *

Figure 15
Delivered selling prices to the two largest purchasers of U.S.-produced and imported PPD-T aramid fiber product 11, by quarters, Jan. 1991-Dec. 1993

* * * * *

Delivered price trends were only observed for *** products for which Akzo reported pricing data.¹²¹ For ***, Akzo only sold to ***. Akzo reported that it had ***. Delivered prices for Akzo's largest purchasers of the PPD-T aramid fiber imported from the Netherlands likewise showed ***. Prices to some purchasers ***. Overall, *** purchasers ended the period at ***.

Price comparisons

Price comparisons were made between the average price for DuPont's and Akzo's total sales for each of the products for which prices were requested. Overall, there were *** instances in

¹²¹ Price trends are not discussed for *** because there was not a sufficient number of observations.

which comparisons between the U.S.-produced PPD-T aramid fiber and the imported product from the Netherlands were possible (table 18). In *** of these instances, the imported product was priced *** the domestic product. In *** instances, the imported product was priced *** the domestic product.

Table 18
 PPD-T aramid fiber: Margins of under(over)selling by imports from the Netherlands, by products and by quarters, Jan. 1991-Dec. 1993

* * * * *

Price comparisons were also made between purchasers of PPD-T aramid fiber that bought both the DuPont and Akzo product. Twelve purchasers reported pricing data for similar products purchased from both DuPont and Akzo.¹²² Eleven of the 12 purchasers reported that prices of the imported product were lower than those of the U.S. product. Overall, there were 60 instances in which comparisons between the U.S.-produced PPD-T aramid fiber and the imported product from the Netherlands were possible. In 47 of the instances, the imported product was priced between 0.6 and 32.1 percent below the domestic product. In 11 instances, the imported product was priced between 0.8 and 12.7 percent higher than the domestic product.¹²³

Moreover, purchasers that bought both the DuPont and Akzo product during 1993 were requested to identify whether the Akzo product was priced less than the DuPont product. Of the 18 purchasers reporting that they purchased both the Akzo and DuPont product during 1993, 13 purchasers reported that the Akzo product was priced below the DuPont product.

DuPont's long-term price trends

DuPont submitted to the Commission average price information for its total sales of products 1-11, by year, during 1985-93.¹²⁴ Prices increased for nearly all of the products throughout the nine-year period, especially during the 1980s (figures 16-19 indexed to 1988). DuPont's PPD-T aramid pulp products 1-3 had the *** in average prices, *** percent, during 1985-93. The rate of *** during 1991-93. Average prices for DuPont's PPD-T aramid staple product 4 *** during 1988-93, also showing a ***. Average prices for DuPont's PPD-T aramid nonwoven product 10 *** during 1988-93. Most of the average prices for DuPont's PPD-T aramid yarn products 5-9 and 11 *** during 1988-91, before ***.

Figure 16
 Indexes of DuPont's average delivered prices of PPD-T aramid fiber pulp products 1-3, by year, 1985-93

* * * * *

¹²² These 12 purchasers accounted for approximately *** percent of U.S. shipments of DuPont's and Akzo's PPD-T aramid fiber during 1993, respectively. These purchasers also represented *** percent of the total 1993 purchases by the 23 responding purchasers that bought both the DuPont and the Akzo product.

¹²³ The prices were the same for two comparisons.

¹²⁴ Prices for products 4, 10, and 11 were reported for 1988-93, prices for product 8 were reported for 1987-93, and prices for product 9 were reported for 1986-93.

Figure 17
Index of DuPont's average delivered prices of PPD-T aramid fiber staple product 4, by year,
1988-93

* * * * *

Figure 18
Index of DuPont's average delivered prices of PPD-T aramid fiber nonwoven product 10, by year,
1988-93

* * * * *

Figure 19
Indexes of DuPont's average delivered prices of PPD-T aramid fiber yarn products 5-9 and 11, by
year, 1985-93

* * * * *

Purchaser responses

The Commission sent questionnaires to 46 firms believed to be purchasers of PPD-T aramid fiber. Responses were received from 39 firms representing approximately 72 percent and over 88 percent of DuPont's and Akzo's domestic shipments of PPD-T aramid fiber during 1993, respectively. The responding firms included 6 purchasers in the tire/belt and hoses market, 12 purchasers in the rope and cables market, 8 purchasers in the gasket and seals market, 5 purchasers in the friction material (brakes) market, 6 purchasers in the fabric/apparel/composites market, and 2 purchasers in the nonwoven market. Information obtained from these purchasers is summarized below.

Purchasers reported that they typically make weekly or monthly purchases of PPD-T aramid fiber and that this purchasing pattern had not changed over the previous three years. They also reported that they rarely change suppliers; those that did reported making the switch for cost/economic or service/technical support reasons. Nearly all of the purchasers reported that they did not follow any "Buy American" policies. They also reported that they are not restricted in the end-use application of the product they purchase nor are they restricted in reselling the PPD-T aramid fiber in its purchased form.¹²⁵

Purchasers were requested to rank, in order of importance, the three major factors considered in deciding from whom to purchase PPD-T aramid fiber. Purchasers reported that product quality, price, and availability were the major factors. Of the 6 factors identified as the most important, product quality was cited by 14 purchasers, the correct customer/product specification was cited by 7 purchasers, the requirement that a supplier be qualified was cited by 6 purchasers, product availability was cited by 5 purchasers, product price was cited by 5 purchasers, and the traditional supplier was cited by 2 purchasers.

Twenty-three of the responding 39 purchasers reported buying PPD-T aramid fiber product from both DuPont and Akzo. These purchasers were asked why they purchased the imported product from the Netherlands in lieu of purchasing U.S.-produced PPD-T aramid fiber. A majority of these purchasers rated price, quality, and service as very important factors in their buying decision. A majority of purchasers also reported that they considered other factors at least somewhat

¹²⁵ Two purchasers reported that they did follow "Buy American" policies, one purchaser due to sales to the U.S. Government and the other in connection to a marketing program. Five purchasers reported that they were restricted in reselling the PPD-T aramid fiber. ***.

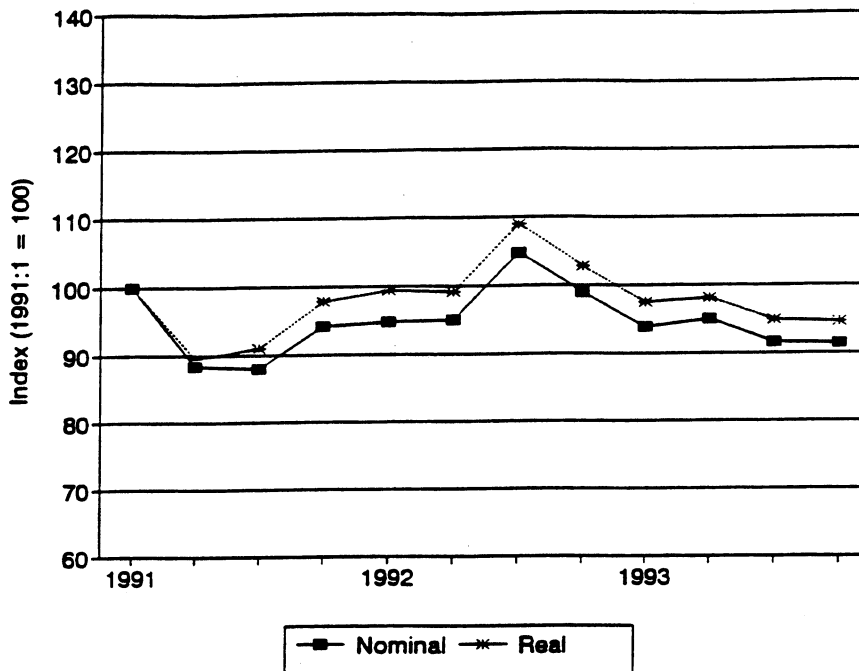
important in their decision to buy the imported product. These include the desire to purchase from several sources of supply, the availability of technical services from Akzo, the requirement that the supplier must be qualified, better credit terms, and the need to compete with substitute products that use less expensive alternate fibers. One downstream purchaser, *** by buying the Akzo product.¹²⁶

Purchasers of both the U.S. and imported product from the Netherlands were also asked to compare seven factors between the U.S. and the imported PPD-T aramid fiber. Most purchasers reported that the price of the Netherlands' product was lower than the price of the U.S. product. Most of the other factors were rated the same between the two suppliers, although more purchasers rated DuPont superior in product quality, technical service, product availability, and delivery than the importer from the Netherlands. Akzo was rated superior by more purchasers for its credit terms than DuPont.

Exchange Rates

Quarterly data reported by the International Monetary Fund indicate that between January-March 1991 and October-December 1993, the nominal value of the Netherlands' guilder fluctuated, depreciating overall by 8.6 percent relative to the U.S. dollar (figure 20).¹²⁷ Adjusted for movements in producer price indexes in the United States and the Netherlands, the real value of the Netherlands' currency showed an overall depreciation of 5.4 percent relative to the dollar.

Figure 20
Exchange rates: Indexes of the nominal and real exchange rates between the U.S. dollar and the currency of the Netherlands, by quarters, Jan. 1991-Dec. 1993



Source: International Monetary Fund, *International Financial Statistics*, May 1994.

¹²⁶ Field trip, Feb. 24, 1994. *** reported ***. That is, a seller is required to ***.

¹²⁷ *International Financial Statistics*, May 1994.

Lost Sales and Lost Revenues

The Commission received *** allegations of lost sales and *** allegations of lost revenues from DuPont, which involved *** purchasers. The lost sale allegations totalled *** and involved *** pounds of PPD-T aramid fiber. The lost revenue allegations totalled *** and involved *** pounds. The Commission contacted *** firms representing *** of the lost sale allegations involving *** pounds and totalling ***, and *** of the lost revenue allegations involving *** pounds and totalling ***.

Tires/Belts and Hoses

* * * * *

Gaskets

* * * * *

Friction Material/Brakes

* * * * *

Fiber Optics

* * * * *

Composites

* * * * *

APPENDIX A
COMMERCE'S AND THE COMMISSION'S *FEDERAL REGISTER* NOTICES
AND
LIST OF PARTICIPANTS AT THE HEARING

International Trade Administration

BA-421-805a

Notice of Final Determination of Sales at Less Than Fair Value: Aramid Fiber Formed of Poly-Phenylene Terephthalamide From the Netherlands**AGENCY:** Import Administration, International Trade Administration, Department of Commerce.**EFFECTIVE DATE:** May 6, 1994.**FOR FURTHER INFORMATION CONTACT:** Jennifer Katt or Michael Ready, Office of Antidumping Investigations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW.; Washington, DC 20230; telephone: (202) 482-0498 or (202) 482-2613, respectively.**FINAL DETERMINATION:** We determine that imports of aramid fiber formed of polyphenylene terephthalamide (PPD-T aramid fiber) from the Netherlands are being, or are likely to be, sold in the United States at less than fair value (LTFV), as provided in section 735 of the Tariff Act of 1930, as amended (the Act). The estimated weighted-average margins are shown in the "Continuation of Suspension of Liquidation" section of this notice.**Case History**

Since our preliminary determination on December 9, 1993 (58 FR 65699, December 16, 1993), the following events have occurred:

On December 16, 1993, we received a request from the sole respondent in this investigation, Aramide Maatschappij V.O.F. (Arami) and Akzo Fibers, Inc. (the U.S. selling agent) (collectively Akzo) to postpone the final determination in this investigation until 135 days after the date of publication of the preliminary determination. On December 22, 1993, we did so and postponed this final determination until May 2, 1994 (58 FR 69329, December 30, 1993).

On February 23, 1994, petitioner (E.I. Du Pont de Nemours & Company) requested that references to tire cord fabric be deleted from the scope of the investigation. On April 21, 1994, petitioner revised its previous request, asking that tire cord fabric be expressly excluded from the scope of this investigation. (See "Scope of the Investigation" section of this notice, below.) Akzo submitted supplemental responses to sections B (third-country sales), C (United States sales) and D (cost of production/constructed value) of the questionnaire, revisions and corrections to its sales responses, and/

or revised computer tapes in December 1993, as well as February, March and April of 1994.

We conducted verification of Akzo's sales and cost questionnaire responses in the Netherlands and the United States in February and March of 1994, respectively.

Akzo and petitioner submitted case and rebuttal briefs on March 28 and 31, 1994, respectively. At Akzo's request, a public hearing was held on April 1, 1994.

Scope of the Investigation

The products covered by this investigation are all forms of poly para-phenylene terephthalamide aramid fiber from the Netherlands. These consist of PPD-T aramid in the form of filament yarn (including single and corded), staple fiber, pulp (wet or dry), spun-laced and spun-based nonwovens, chopped fiber and floc. Tire cord fabric is excluded from the class or kind of merchandise under investigation. PPD-T aramid fiber is classifiable under subheadings 5402.10.3020, 5402.10.3040, 5402.32.3000, 5503.10.0000, 5801.30.0000 and 5902.10.0000 of the *Harmonized Tariff Schedule of the United States* (HTSUS). Although the HTSUS numbers are provided for convenience and customs purposes, our written description of the scope of this investigation is dispositive.

Changes to the Scope of the Investigation

Prior to our preliminary determination, petitioner requested that we clarify that "tire cord fabric" constructed of PPD-T aramid fiber is included within the scope of this investigation. After considering comments from both parties, we preliminarily determined that this product is included within the scope of this investigation (58 FR 65699, December 16, 1993). We also invited comments from interested parties on this issue. Subsequent to the preliminary determination, petitioner requested that tire cord fabric be expressly excluded from the scope of this investigation. Also, Akzo submitted arguments opposing the inclusion of tire cord fabric. We have therefore excluded tire cord fabric from the class or kind of merchandise covered by this investigation.

Petitioner also requested that the term "nonwovens", as used in the description of the scope of the investigation, be clarified to include only spun-based and spun-laced nonwovens composed of PPD-T aramid fiber. We have made this clarification.

Finally, at the request of the U.S. International Trade Commission, we have replaced the words "this includes" with the words "these consist of" to further clarify the products covered by this investigation.

Class or Kind

Prior to our preliminary determination, Akzo argued that this investigation should involve at least three classes or kinds of merchandise: Yarn, staple fiber and pulp. After considering extensive comments from both parties, we preliminarily determined that the products covered by this investigation constitute a single class or kind of merchandise, and three such or similar categories. (See Preliminary Concurrence Memorandum, dated December 9, 1993, on file in room B-099 of the main building of the Department of Commerce). In our preliminary determination, we invited additional comments from interested parties on this issue. However, no additional evidence supporting a finding of three classes or kinds has been submitted. In addition, no comments in opposition to our preliminary determination have been filed. We therefore continue to find that the products covered by this investigation constitute a single class or kind of merchandise.

Period of Investigation

The period of investigation (POI) is January 1, 1993, through June 30, 1993.

Such or Similar Comparisons

We made fair value comparisons using the following such or similar categories: (1) Yarn; (2) staple fiber; and (3) pulp. Where we were not able to compare U.S. sales to sales of identical merchandise, we made similar merchandise comparisons on the basis of the criteria defined in Appendix V to the antidumping duty questionnaire, on file in room B-099 of the main building of the Department of Commerce. In accordance with 19 CFR 353.58, we made comparisons at the same level of trade, where possible.

Fair Value Comparisons

To determine whether Akzo's sales to the United States of PPD-T aramid fiber were made at less than fair value, we compared the United States price (USP) to the foreign market value (FMV), as specified in the "United States Price" and "Foreign Market Value" sections of this notice.

United States Price

We calculated USP according to the methodology described in our

preliminary determination, with the following exceptions:

1. We included certain sales in our calculation of USP which Akzo contends were pursuant to a long-term contract negotiated prior to the POI. (For a further discussion of these sales, see comment 1 below.)

2. We increased U.S. indirect selling expenses by the amount of G&A expenses allocated to the aramid fibers business unit of Akzo Fibers Inc. by its parent company, Akzo America Inc. (see comment 6 below).

3. We recalculated inventory carrying costs incurred in the Netherlands on U.S. sales to reflect the short-term borrowing rate of Arami, (i.e., the actual producer and seller of subject merchandise), (see comment 8 below).

4. We used the date of the start of the Dutch sales verification for all missing payment dates.

Foreign Market Value

As stated in our preliminary determination, we determined that the home market was not viable for any of the three such or similar categories. We selected Germany as the third country market for sales of yarn and staple fiber, and Japan as the third country market for sales of pulp. We calculated FMV as noted in the "Price-to-Price" and "Price to Constructed Value (CV)" sections of this notice.

Cost of Production

Petitioner alleged that Akzo's third country sales were made at prices below the cost of production (COP). On the basis of petitioners' allegations, we gathered and verified data on production costs.

We compared Akzo's third country prices to the COP as explained in our preliminary determination.

In order to determine whether third country prices were above the COP, we calculated the COP based on the sum of Arami's (i.e., the actual producer and seller of subject merchandise) submitted costs of materials, fabrication, general expenses, and packing, except in the following instances where the costs were not appropriately quantified or valued:

1. We recalculated interest expense based solely on Arami's financial statements (see DOC position for comment 12);

2. We included certain non-operating expenses in general and administrative (G&A) expenses (see DOC position for comment 17); and

3. We disallowed Arami's claimed reduction in fixed overhead for certain intercompany charges (see DOC position for comments 14 and 15).

Accordingly, we increased its submitted cost of manufacturing.

Price-to-Price Comparisons

For those products for which we had an adequate number of sales at prices equal to or greater than the COP, we based FMV on third country prices. We calculated FMV using the methodology described in our notice of preliminary determination, with the following exceptions:

1. We recalculated inventory carrying costs incurred in the Netherlands on German and Japanese sales and German credit expenses to reflect the short-term borrowing rate of Arami (see comment 7 below).
2. We used the average credit days of all transactions with a reported shipment and payment date for sales missing both a shipment and payment date. We have inserted the date of the start of the Dutch sales verification for those sales with missing payment dates only.
3. We corrected a clerical error in the calculation of third country indirect selling expenses.

Price to CV Comparisons

For those products without an adequate number of sales at prices above the COP, we based FMV on CV. We calculated CV based on the sum of the cost of materials, fabrication, general expenses, and U.S. packing cost. In accordance with section 773(e)(1)(B) (i) and (ii) of the Act we: (1) included the greater of Arami's reported general expenses or the statutory minimum of ten percent of the cost of manufacture (COM), as appropriate and; (2) for profit, we used the higher of the statutory minimum of eight percent of the sum of COM and general expenses or the actual profit incurred as calculated on a market specific basis (see Comment 18). As a result, for the German market we used actual profit and for the Japanese market we used the statutory minimum of eight percent. We calculated CV based on the methodology described in the calculation of COP above, with the following exceptions:

1. In the financing calculation, we included additional interest expense based on market value (See Comment 13).
2. We corrected a clerical error in the calculation of third country profit. In instances where we compared Akzo's U.S. prices to CV, we made deductions, where appropriate, for the weighted-average third country direct selling expenses. We also deducted the weighted-average third country indirect selling expenses. We limited this adjustment by the amount of indirect

selling expenses incurred on U.S. sales, in accordance with 19 CFR 353.56(b)(2).

Final Determination of Critical Circumstances

Petitioner alleged that "critical circumstances" exist with respect to imports of PPD-T aramid fiber from the Netherlands. Pursuant to section 733(e)(1) of the Act and 19 CFR 353.16, we have analyzed the allegations using the Department's standard methodology as discussed in our preliminary determination, except that for purposes of determining whether there have been massive imports we compared imports in five-month periods rather than four-month periods (see DOC position for comment 4). Accordingly, we find that critical circumstances do not exist.

Currency Conversion

We made currency conversions based on the official exchange rates in effect on the dates of the U.S. sales as certified by the Federal Reserve Bank of New York.

Verification

As provided in section 776(b) of the Act, we verified information provided by Akzo by using standard verification procedures, including the examination of relevant sales and financial records, and selection of original source documentation containing relevant information.

Interested Party Comments

Certain comments cannot be discussed in this notice due to their business proprietary nature. The comments which have been excluded do not lend themselves to public summarization, and therefore have been discussed in the business proprietary version of the Final Concurrence Memorandum dated May 2, 1994 (Final Concurrence Memorandum), on file in room B-099 of the main building of the Department of Commerce.

Comment 1: Petitioner argues that the Department of Commerce (the Department) should include in its calculation of U.S. price Akzo's shipments during the POI made pursuant to a long-term agreement negotiated prior to the POI. Petitioner contends that the particular terms and circumstances of Akzo's agreement with this customer do not create a binding commitment on the part of either the buyer or seller and therefore do not create an enforceable sales contract.

Akzo argues that these shipments were pursuant to a long-term contract established prior to the POI and therefore are properly excluded from the U.S. database. Akzo further argues that

certain terms and circumstances of the agreement should not prevent it from being considered a contract with a date of sale prior to the POI because the two parties acted upon and adhered to the contract. Finally, respondent points out that the Department confirmed at verification that all sales to this customer during the period of the contract were at the contract price.

DOC Position: In order for this agreement to be considered a long-term contract established prior to the POI, the agreement must fix both the price and quantity. At verification we examined all invoices to the customer for sales pursuant to the agreement during its effective period. Although we found that all sales were made at the specified price, we also found that the quantity purchased was substantially less than the amount specified in the contract.

Therefore, we conclude that the quantity was not fixed by the terms of the agreement because the quantities actually purchased over the period of the agreement were unrelated to those specified by the agreement. For this reason, we determine that the date of the agreement does not constitute the date of sale. Accordingly, we have used the date of shipment as the date of sale and have included all shipments to this customer during the POI in our calculation of U.S. price.

Comment 2: Petitioner argues that the Department should include in its calculation of U.S. price Akzo's shipments during the POI pursuant to a supply agreement which was signed prior to the POI but modified during the POI. Petitioner asserts that the modification to the agreement, in effect, created a new agreement with a date of sale within the POI.

Akzo argues that the contract modification did not alter the essential terms of the contract. Therefore, according to Akzo, all POI shipments pursuant to this agreement have a date of sale prior to the POI and thus are properly excluded from the U.S. sales database.

DOC Position: We agree with Akzo. We verified that the essential terms of the contract, the price and quantity, were not altered as a result of the modification. Therefore, we consider Akzo's agreement with this customer to be a long-term contract with a date of sale prior to the POI. Consequently, the shipments in question were properly not reported.

Comment 3: Petitioner argues that Akzo's shipments made pursuant to supply contracts with two customers during the POI should be reported as U.S. sales, if not already reported.

Akzo contends that these sales have been reported.

DOC Position: The sales in question were reported.

Comment 4: Petitioner argues that the Department should find that imports of subject merchandise were massive over a relatively short period of time and that consequently, critical circumstances exist in this investigation under 735 (a)(3)(B) of the Act. In its analysis, petitioner compared shipments to the United States with a base period prior to the filing of the petition of May-July, 1993, with shipments to the United States in the post-petition comparison period of August-October, 1993. Using this comparison, petitioner found that imports had increased during the comparison period by more than 15 percent, the Department's benchmark.

Akzo argued that imports were not massive, and that the petitioner's methodology was not consistent with the practice of the Department.

DOC Position: We agree with Akzo. In this case, the petition was filed on July 2, 1993. It is the Department's standard policy, in cases where the petition is filed during the first half of the month, to include the month of filing in the post-petition comparison period, not the base period, as petitioner suggests (See, e.g., *Certain Portable Electronic Typewriters from Singapore*, 58 FR 43337 (1993)). Additionally, although 19 CFR 353.16(g) requires that we examine at least three months, it is the Department's practice to examine the longest period for which information is available up until the preliminary determination (See, e.g., *Certain Cut-to-Length Carbon Steel Plate from the United Kingdom*, 58 FR 37216 (1993)). When the five month period subsequent to and including the month that the petition was filed is compared to the previous five months, we find that imports were not at levels we consider massive.

Comment 5: Petitioner argues that certain sales of scrap (which were excluded from our analysis in the preliminary determination because the quantity involved was insignificant) should be included in the calculation of U.S. price for the following reasons: (1) The fact that the quantities are small is irrelevant; (2) other sales of the merchandise in question are included in the cost of production calculations; and (3) according to product specifications in Akzo's invoices, the merchandise in question is clearly a form of PPD-T aramid fiber which is subject to investigation.

Akzo argues that the Department properly excluded sales of scrap from its preliminary determination because the

quantities sold in the United States were small and there were no similar sales of scrap in the comparison third country markets. Additionally, Akzo asserts that exclusion of scrap sales is consistent with the treatment of non-prime material in the recent carbon flat steel cases, where the Department disregarded sales of second quality merchandise in the U.S. market where there were no similar sales in the home market and they constituted an insignificant portion (less than five percent) of the respondent's total U.S. sales. (Final Determination of Sales at Less Than Fair Value: *Certain Hot-Rolled and Certain Cold-Rolled Steel from the Netherlands*, 58 FR 37199, 37201 (July 9, 1993)).

Akzo further argues that petitioner's reliance on the product designations on the invoices is misplaced because scrap is generated as part of the beaming (*i.e.*, repacking) process in the United States.

DOC Position: We agree with Akzo.

The volume of scrap sales is insignificant and there are no comparable third country sales. Therefore, we have continued to exclude these sales from our calculations. In addition, at verification we verified that most of the scrap is tailings generated by the U.S. repacking operation and that, invoice descriptions notwithstanding, the product is sold as waste and the customer has no recourse to quality claims.

Comment 6: Petitioner argues that we should not exclude certain (G&A) expenses incurred by Akzo America, Inc. in the calculation of indirect selling expenses for purposes of the ESP deduction from U.S. price. Petitioner further argues that it is long-standing Department practice to consider G&A expenses incurred by the U.S. selling arms of a foreign producer to be indirect "selling expenses" for purposes of this deduction.

Akzo argues that it has captured all expenses of the selling affiliate, Akzo Fibers, in its calculation of indirect selling expenses. In addition, Akzo asserts that it has captured all selling-related expenses which were allocated to the aramid fiber business unit of Akzo Fibers by Akzo America. Akzo contends that all remaining G&A expenses carried on the books of Akzo America are not associated with the selling function at Akzo Fibers and therefore are properly not included in the calculation of U.S. indirect selling expenses.

DOC Position: We agree with petitioner. Akzo America is the parent company that provides administrative, accounting and finance services for all of Akzo's North American subsidiaries.

In addition, there is no evidence that it provides any services for Akzo N.V. (its parent company in the Netherlands) other than to facilitate the activities of the subsidiaries in the United States. Therefore, all expenses incurred by Akzo America, including those classified on its books as G&A, are indirectly related to the selling activities of the subsidiaries. Consequently, we have included in the calculation of U.S. indirect selling expenses the amount of Akzo America's G&A expenses which have been allocated to the aramid fibers business unit of Akzo Fibers.

Comment 7: Petitioner argues that certain other G&A expenses listed on the June 1993 financial statement of Akzo America have not been allocated to any of the North American subsidiaries and that the representative portion attributable to the aramid fiber business unit should be included in the calculation of indirect selling expenses for purposes of the ESP deduction from U.S. price.

Akzo argues that these G&A costs are the same G&A expenses which are the subject of Comment 6 above.

DOC Position: We agree with petitioner that the G&A expenses of Akzo America should be included in the calculation of indirect selling expenses for purposes of the ESP deduction from U.S. price (see comment 6). However, we agree with Akzo that these G&A costs are the same G&A expenses which are the subject of Comment 6 (see memorandum to the file, dated April 22, 1994). Therefore, no additional increase to U.S. indirect selling expenses is necessary.

Comment 8: Petitioner argues that in calculating the Dutch portion of U.S. inventory carrying costs, the Department should use the short-term borrowing rate of Arami (*i.e.*, the actual producer and seller of the subject merchandise), rather than the rate of Akzo N.V., the parent company. Petitioner asserts that Arami's borrowing rate is appropriate because Arami is the company which actually financed the inventory and is a separate corporate entity from Akzo N.V.

Akzo argues that Akzo N.V.'s short-term borrowing rate should be used in calculating the Dutch portion of the inventory carrying cost for the same reasons it argues that Akzo N.V. and Arami should be consolidated for determining a financial expense ratio for CV and COP. (See the discussion below at Comment 11). Respondent also argues, in the event that the Department decides not to collapse the two companies and uses Arami's short-term borrowing rate in calculating U.S. inventory carrying cost, that the

Department should also use Arami's short-term borrowing rate in the calculation of inventory carrying costs incurred in the Netherlands on sales made in Japan and Germany and in the calculation of German credit.

DOC Position: As noted in our response to Comment 11 below, we have determined that it is not appropriate to collapse Arami and Akzo N.V. Therefore, we agree with petitioner and have used the short-term borrowing rate of Arami in calculating the inventory carrying costs incurred in the Netherlands on U.S., German and Japanese sales. We have also applied Arami's rate in the calculation of German credit expense, as suggested by Akzo.

Comment 9: Petitioner argues that Akzo's U.S. customs duty calculation may be incorrect because there are discrepancies between the list of customs entries for subject merchandise entering Akzo's warehouses in the United States during the POI and the list of all shipments to the United States provided by Akzo in connection with the critical circumstances allegation.

Akzo argues that petitioner has erroneously assumed that the entries included in the two lists should correspond exactly. In fact, respondent argues, the list of shipments includes additional entries that did not enter Akzo's warehouse but were transferred directly to U.S. customers, entries made after the POI, and invoices that were cancelled.

DOC Position: We agree with Akzo. The two lists will not correspond exactly. One list represents the volume of subject merchandise entering Akzo's U.S. warehouses during the POI, while the other represents the volume of subject merchandise shipped from the Netherlands during the POI. In addition, at verification we determined that the list of entries used for Akzo's U.S. duty calculation was complete and accurate.

Comment 10: Akzo argues that the Department made clerical errors in its calculation of the ESP offset and difference in merchandise adjustment in its preliminary determination.

DOC Position: We agree with respondent. We have corrected these errors in our final determination. Also, see our response to Comment 18.

Comment 11: Petitioner argues that Arami and Akzo N.V. should not be consolidated for COP or CV calculations. Petitioner states that while they were clearly related, Akzo N.V. held only a 50 percent equity interest in Arami and their operations were never consolidated for financial reporting or any other purposes. According to both Dutch and U.S. generally accepted

accounting principles (GAAP), consolidation is required when one company holds more than a 50 percent equity interest in another company. Petitioner asserts that the reorganization of the Arami joint venture should not be factored into the Department's cost analysis because this development occurred after the POI. Petitioner claims that if the Department departed from its practice of investigating costs and prices during the POI, it would constitute an arbitrary departure from established practice as well as an invitation for post-POI cost and price manipulation by foreign producers.

Petitioner maintains that the Department's reason for collapsing transactions between related parties which do not reflect "arm's length" costs is to eliminate any substantial risk of price and cost manipulation between those companies. Petitioner states that the legal and operational structure of Arami was designed so that its operations would not be consolidated under Dutch law. Additionally, petitioner asserts that the actual cost of producing aramid fiber is more accurately reflected by Arami's own books and records instead of its records consolidated with the Akzo Group. Petitioner contends that the companies in the cases cited by Arami do not relate to this case because the companies met the requirements for consolidation and should have been consolidated under GAAP (*i.e.*, equity ownership was greater than 50 percent).

Arami claims that Akzo N.V. exerted significant control over its operation not only in 1993, but in all preceding years. Arami states evidence of this close interrelationship is illustrated by its financing transactions as well as evidence of organizational and operational control. Arami argues that it is the Department's practice to combine financing activities of companies where one company exerts significant control over the other company. It also claims that this is in keeping with the Department's position on fungibility of capital. Arami has informed the Department that Akzo Fibers Aramide B.V., a wholly-owned subsidiary of Akzo N.V., increased its equity interest in Arami to 85 percent effective December 31, 1993. Arami concludes that, based on the fungibility of capital, increased equity ownership and significant control, the Department should consolidate Arami with Akzo N.V. for cost of production and constructed value purposes. Arami states that it was consolidated with Akzo N.V. for balance sheet reporting purposes as of December 31, 1993, and would be fully consolidated on both the

income statement and balance sheet in the fiscal year 1994.

Additionally, Arami claims that in previous cases, the Department has combined the parent and subsidiary's costs even though consolidation did not occur in the normal course of business. In citing the Final Determination of Sales at Less Than Fair Value: Certain Carbon Steel Butt-weld Pipe Fittings from Thailand (pipe fittings), 57 FR 21065 (1992), respondent quotes the Department as saying: " * * * it is the Department's policy to combine the financing activities of a parent and subsidiary when the parent exercises control over the subsidiary (*i.e.* meets the requirements for consolidation)." Respondent also cites the Final Determination of Sales at Less Than Fair Value: Ferrosilicon from Brazil (Ferrosilicon), 59 FR 732 (1994), to further support its claim.

DOC Position: We agree with petitioner, and have not consolidated Arami and Akzo N.V. for purposes of this antidumping investigation. The corporate reorganization which was effective December 31, 1993, was not considered by the Department because it occurred subsequent to the POI.

Each of the joint venture partners had equal control over decisions involving Arami's operations until the new agreement was signed in 1994. Under Dutch GAAP, if a company does not have equity ownership of greater than 50 percent, but still has control over another company, it is required to consolidate. Since Arami was not consolidated with Akzo prior to reorganization, we can reasonably conclude that Akzo did not have sufficient control over Arami to warrant consolidation under Dutch GAAP. Therefore, consolidation of Arami and the Akzo N.V. for antidumping purposes based on a significant control argument is unwarranted.

In the two cases cited by Arami, the GAAP of those countries required consolidation when one company owned more than 50 percent of another. In the Pipe Fittings case, the Japanese parent company, Awaji Sangyo K.K. Company Ltd. (ASK) owned more than 50 percent of Awaji Sangyo Co. Ltd., (AST) of Thailand. Although ASK and AST did not prepare consolidated financial statements, the Department in its cost verification report (April 4, 1992, pg.3) noted " * * * the operations should have been consolidated in accordance with generally accepted accounting principles." In Ferrosilicon, the parent company owned greater than 50 percent of Minasligas, its subsidiary under investigation. Brazilian and U.S. GAAP require consolidation when the

equity interests exceed 50 percent. In each of those cases, control was indicated by equity ownership and GAAP required consolidation. In contrast to the above cases, Arami did not meet the requirements for consolidation. For further analysis of this issue, see the Final Concurrence Memorandum.

Comment 12: Since Arami was not consolidated with Akzo N.V. during the POI, petitioner asserts interest expense should be calculated based solely on Arami's 1992 audited financial statements. Petitioner argues that the Department must disregard the reorganization finalized subsequent to the POI which resulted in Arami being consolidated with Akzo N.V. for balance sheet purposes. In addition, petitioner states this consolidation did not affect the income statement encompassing the POI.

Arami argues that the combined 1992 financial statement data of Arami and Akzo N.V. is the correct basis for computing interest expense because Akzo N.V. exerts significant control over Arami's operations and capital is fungible. Arami argues that the consolidation for balance sheet purposes as of December 31, 1993, affects the entire fiscal year 1993.

DOC Position: We disagree with respondent. A company's balance sheet presents a snapshot of its assets and claims on those assets (liabilities and equity) as of a specific point in time (i.e., 12/31/93). An income statement reports a company's performance over a specified period of time (i.e., 1/1/93-12/31/93). Arami's operating results were not consolidated with the results of the Akzo N.V. Group in 1993. Based on the Department's decision not to consolidate Arami with Akzo N.V., we calculated interest expense for COP and CV based solely on Arami's financial statements. For further analysis of this issue, see the Final Concurrence Memorandum.

Comment 13: Petitioner asserts that interest on loans provided by a related party should be included in the calculation of Arami's financing costs for COP and CV purposes. Petitioner states that according to the Court of Appeals for the Federal Circuit in *IPSCO, Inc. v. U.S.*, 965 F.2d 1056 (1992), cost of production is linked to constructed value. Thus, the petitioner states that the constructed value provision authorizing the Department to disregard related party transactions which are not arms-length in nature can be applied to cost of production calculations. Petitioner asserts that Arami's argument for consolidation does not eliminate the costs associated

with these loans. Furthermore, the year end reorganization does not modify costs incurred during the POI. Petitioner contends that consolidation did not affect the income statement for the period January 1 through December 31, 1993.

Arami claims that as a result of the new joint venture agreement signed in 1994, Arami's balance sheet was consolidated with that of Akzo N.V., eliminating all related party loans. Therefore, the Department cannot impute an interest cost to loans that do not exist as of December 31, 1993. Arami claims its 1992 audited financial statement data should be used in calculating interest expense, but adds that the significant change in Arami's corporate structure must be considered. Arami continues that if the Department determines consolidation is unwarranted, and decides imputation of interest expense is necessary for CV, it should not impute interest for COP. Arami argues that the Department's long standing policy is to compute COP based on a company's actual costs, thus, there is no basis on which to impute interest for COP.

DOC Position: According to section 773(e)(2) of the Act, for CV, if a transaction between related companies does not fairly reflect the market value, the Department may determine that element of value using the best evidence available. In this case, we found that the loans in question were at below-market interest rates. Thus, we included the interest incurred on the loans provided by Arami's related party in the calculation of financing costs for CV purposes.

We determined that no related party financing adjustment is necessary for COP purposes. In determining actual costs of production, the Department normally adheres to the GAAP of the respondent's home country. Under Dutch GAAP, economic activities are normally consolidated for all companies that have direct or indirect ownership greater than 50 percent. In accordance with ITA's standard practice, the supplier's actual costs of production should be used to value inputs acquired from companies that are directly or indirectly related by more than 50 percent. Inputs acquired from companies that have direct or indirect ownership of 50 percent or less, should normally be valued using transfer prices (i.e., purchaser's actual cost). Accordingly, for COP purposes, we used Arami's transfer prices.

For further analysis of these issues, see the Final Concurrence Memorandum.

Comment 14: Petitioner states that certain charges were paid by Arami for services rendered by related Akzo companies. Since certain of these charges are used to approximate the price charged in an arm's length transaction and were actual costs incurred, Petitioner states it is appropriate to include these costs in the cost of manufacturing.

Arami claims certain of these charges are intracompany transactions which do not represent true costs and will be discontinued in 1994, therefore, these costs should be excluded from the cost of manufacturing for both COP and CV purposes.

DOC Position: We disagree with respondent. These charges relate to intercompany transactions between Arami and another company, which represent actual costs incurred by Arami and recorded on its books during the POI. Arami incorrectly categorized these costs as intracompany transactions which relates to transactions between divisions within a company. The fact that this charge may be discontinued in 1994 does not mean the costs should be excluded for 1993. Accordingly, we included these charges in Arami's COP and CV calculations.

Comment 15: Petitioner states that certain costs incurred by Akzo N.V. prior to the POI and recorded in Arami's 1992 audited financial statements in accordance with GAAP should be included in the COP. Petitioner states that this expense should be either charged to U.S. sales as a selling expense or to all sales as a general and administrative expense.

Akzo argues that these costs incurred by Akzo N.V. do not represent true costs for Arami during the POI. The accrual on Arami's books for this cost has not been paid to Akzo N.V. and the expense will no longer be charged in 1994. Therefore, this intercompany transaction should be excluded from the submitted cost of manufacturing.

DOC Position: Since this expense relates to the general production activity of Arami, we included it in Arami's general and administrative expense calculation for COP and CV purposes. This expense represents an actual cost recorded on Arami's books during the POI and the fact that the expense will no longer be charged in 1994 is not relevant.

Comment 16: Petitioner asserts that the Department should disallow a certain adjustment to Arami's fixed overhead costs for grants because it is not recorded in Arami's cost accounting system and the reduction in costs attributed to this adjustment distorts Arami's true cost of manufacturing.

Petitioner notes that if the Department allows this reduction, we should self-initiate a countervailing duty investigation.

Arami claims that it properly adjusted its fixed overhead costs by a certain amount because this adjustment is recorded in Arami's financial accounting system, and is included in its audited financial statements. Arami notes that inclusion of this adjustment in no way distorts Arami's costs, because it reflects amounts actually incurred. Additionally, Akzo notes that because not all grants are countervailable, the Department should resist petitioner's statements requesting self-initiation of a countervailing duty investigation.

DOC Position: This adjustment reflects actual costs incurred by Arami as recorded on its books in accordance with GAAP, and was properly included in its submitted COP and CV. We believe subsidies are more properly handled in the context of the countervailing duty law. Petitioner is free to submit a countervailing duty petition. Should such a petition be submitted and meet the requirements of the countervailing duty regulations (19 CFR 355.12), the Department would initiate such an investigation. However, no justification has been presented here for a departure from the Department's general policy of not self-initiating countervailing duty investigations.

Comment 17: Petitioner claims that several other non-operating expense items should be included in G&A costs because each of these expenses relate to the aramid fibers business. Petitioner asserts all G&A expenses related to the subject merchandise should be included in cost of production and constructed value.

Arami claims that no additional adjustment to G&A expense for non-operating expenses is warranted. Arami asserts that two of the expenses noted by petitioner are already included in the submitted G&A calculation. Additionally, Arami contends that the related party provision included in other non-operating expenses is an intracompany payment and has no relevance in the context of this dumping investigation.

DOC Position: We adjusted the G&A calculation to include the related party payment and two other non-operating expense items noted in the cost verification report which were associated with the general operations of Arami. The related party payment is an actual cost incurred by Arami and recorded on its books in accordance with GAAP. Two of the other non-operating expenses mentioned by the

petitioner are already included in submitted G&A costs, thus no adjustment is necessary.

Comment 18: Arami contends that for purposes of constructed value, the Department should calculate a weighted-average profit figure for pulp sales in Japan and yarn and staple sales in Germany.

DOC Position: We disagree with Arami. We believe that it is appropriate to calculate all selling expenses and profit specific to the market in which the products in question were sold rather than average profit across two or more countries. Consequently, we calculated one average profit for pulp sold in Japan and another for yarn and staple sold in Germany.

However, we corrected a clerical error in the calculation of profit noted by Arami which resulted in double counting.

Continuation of Suspension of Liquidation

We are directing the Customs Service to continue to suspend liquidation of all entries of PPD-T aramid fiber from the Netherlands that are entered, or withdrawn from warehouse, for consumption on or after December 16, 1993, the date of publication of our preliminary determination in the Federal Register. The Customs Service shall require a cash deposit or posting of a bond equal to the estimated amount by which the FMV of the merchandise subject to this investigation exceeds the U.S. price, as shown below. This suspension of liquidation will remain in effect until further notice. The weighted-average dumping margins are as follows:

Producer/manufacturer exporter	Weighted-average margin
Akzo	55.84
All Others	55.84

ITC Notification

In accordance with section 735(d) of the Act, we have notified the U.S. International Trade Commission of our determination.

Notification to Interested Parties

This notice also serves as the only reminder to parties subject to administrative protective order (APO) of their responsibility concerning the return or destruction of proprietary information disclosed under APO in accordance with 19 CFR 353.34(d). Failure to comply is a violation of the APO. This determination is published pursuant to section 735(d) of the Act and 19 CFR 353.20(a)(4).

Dated: May 2, 1994.

Susan G. Esserman,
Assistant Secretary for Import Administration.

[FR Doc. 94-10993 Filed 5-5-94; 8:45 am]

BILLING CODE 3510-06-P

INTERNATIONAL TRADE COMMISSION

Investigation No. 731-TA-442 (Final)
Aramid Fiber Formed of Poly Para-Phenyleno Terephthalamide From the Netherlands

AGENCY: United States International Trade Commission.

ACTION: Institution and scheduling of a final antidumping investigation.

SUMMARY: The Commission hereby gives notice of the institution of final antidumping investigation No. 731-TA-652 (Final) under section 751(b) of the Tariff Act of 1930 (19 U.S.C. 1675d(b)) (the Act) to determine whether an industry in the United States is materially injured, or is threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports from the Netherlands of aramid fiber formed of poly para-phenylene terephthalamide (PPD-T aramid fiber), provided for in subheadings 5402.10.30, 5402.32.30, 5503.10.00, 5601.30.00, and 5902.10.00 of the Harmonized Tariff Schedule of the United States.

For further information concerning the conduct of this investigation, hearing procedures, and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A and C (19 CFR part 207).

EFFECTIVE DATE: December 14, 1993.

FOR FURTHER INFORMATION CONTACT: Mary Messer (202-205-3163), Office of Investigation, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20438. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202-

1 The issues covered by Customs' investigations are all forms of PPD-T aramid fiber from the Netherlands. This includes PPD-T aramid fiber in the form of filament yarn (including single and corded), single fiber, pulp (wet or dry), tow and fabric, nonwoven, draped fabric, and film.

202-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000.

SUPPLEMENTARY INFORMATION:

Background

This investigation is being instituted as a result of an affirmative preliminary determination by the Department of Commerce that imports of PPD-T aramid fiber from the Netherlands are being sold in the United States at less than fair value within the meaning of section 723 of the Act (19 U.S.C. 1673b). The investigation was requested in a petition filed on July 2, 1993, by counsel on behalf of E. L. Du Pont de Nemours & Co., Wilmington, DE.

Participation in the Investigation and Public Services List

Persons wishing to participate in the investigation as parties must file an entry of appearance with the Secretary to the Commission, as provided in § 201.11 of the Commission's rules, not later than twenty-one (21) days after publication of this notice in the Federal Register. The Secretary will prepare a public services list containing the names and addresses of all persons, or their representatives, who are parties to this investigation upon the expiration of the period for filing entries of appearance.

Limited Disclosure of Business Proprietary Information (BPI) Under an Administrative Protective Order (APO) and BPI Services List

Pursuant to § 207.7(f) of the Commission's rules, the Secretary will make BPI gathered in this final investigation available to authorized applicants under the APO issued in the investigation, provided that the application is made not later than twenty-one (21) days after the publication of this notice in the Federal Register. A separate services list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

Staff Report

The presiding staff report in this investigation will be placed in the nonpublic record on April 22, 1994, and a public version will be issued thereafter, pursuant to § 207.21 of the Commission's rules.

Hearing

The Commission will hold a hearing in connection with this investigation beginning at 9:30 a.m. on May 5, 1994, at the U.S. International Trade Commission Building. Requests to

appear at the hearing should be filed in writing with the Secretary to the Commission on or before April 26, 1994. A nonparty who has testimony that may aid the Commission's deliberations may request permission to present a short statement at the hearing. All parties and nonparties desiring to appear at the hearing and make oral presentations should attend a prehearing conference to be held at 9:30 a.m. on April 28, 1994, at the U.S. International Trade Commission Building. Oral testimony and written materials to be submitted at the public hearing are governed by §§ 201.6(b)(2), 201.13(f), and 207.23(b) of the Commission's rules. Parties are strongly encouraged to submit as early in the investigation as possible any requests to present a portion of their hearing testimony in camera.

Written Submissions

Each party is encouraged to submit a prehearing brief to the Commission. Prehearing briefs must conform with the provisions of § 207.22 of the Commission's rules; the deadline for filing is May 2, 1994. Parties may also file written testimony in connection with their presentation at the hearing, as provided in § 207.23(b) of the Commission's rules, and posthearing briefs, which must conform with the provisions of § 207.24 of the Commission's rules. The deadline for filing posthearing briefs is May 13, 1994; witness testimony must be filed no later than three (3) days before the hearing. In addition, any person who has not entered an appearance as a party to the investigation may submit a written statement of information pertinent to the subject of the investigation on or before May 13, 1994. All written submissions must conform with the provisions of § 201.8 of the Commission's rules; any submissions that contain BPI must also conform with the requirements of § 201.6, 207.3, and 207.7 of the Commission's rules.

In accordance with §§ 201.10(c) and 207.3 of the rules, each document filed by a party to the investigation must be served on all other parties to the investigation (as identified by either the public or BPI services list), and a certificate of service must be timely filed. The Secretary will not accept a document for filing without a certificate of service.

Authenticity: This investigation is being conducted under authority of the Tariff Act of 1930, title VII. This notice is published pursuant to § 207.20 of the Commission's rules.

Issued: January 12, 1994.

By order of the Commission.

Donna R. Keehake,

Secretary.

[FR Doc. 94-1365 Filed 1-19-94; 8:45 am]

BILLING CODE 7550-00-P

CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

Subject : ARAMID FIBER FORMED OF POLY
PARA-PHENYLENE TEREPHTHALAMIDE
FROM THE NETHERLANDS:

Inv. : 731-TA-652 (Final)

Date - Time : May 5, 1994 - 9:30 a.m.

Sessions were held in connection with the investigation in the Main Hearing Room (Rm. 101) of the United States International Trade Commission, 500 E St., S.W., Washington, D.C.

In support of Imposition of
Antidumping Duties:

Wilmer, Cutler and Pickering
Washington, D.C.
on behalf of

E.I. Du Pont de Nemours and Company (DuPont)

Peter Kehoe, Business Director, Advanced Fibers
Systems, DuPont

David Sheffman, Professor, Vanderbilt University,
Nashville, Tennessee

Andrew Wechsler, Consultant, Law and Economics
Consulting Group, Incorporated

Pieter van Leeuwan, Senior Economist, Law and Economics
Consulting Group, Incorporated

John D. Greenwald)
)--OF COUNSEL
Ronald I. Meltzer)

In opposition of Imposition of
Antidumping Duties:

Adduci, Mastriani, Schaumberg and Schill
Washington, D.C.
on behalf of

Aramide Maatschappij V.O.F.

Akzo Fibers Incorporated

Ton Runneboom, Commercial Director for
Twaron, Aramid Fibers, Aramide Maatschappij
V.O.F.

Lowell D. Bivens, General Manager, Aramid Fibers
Business Unit, North America, Akzo Fibers Inc.

Dr. Raymond E. Fornes, Associate Dean Research,
Physical and Mathematical Sciences, North
Carolina State University

Dr. Sam Peltzman, Professor, Graduate School of
Business, University of Chicago

Thomas D. Emrich, Consultant)
Seth Kaplan, Consultant)Trade Resources Company
Richard Boltuck, Consultant)

Barbara A. Murphy)
Tom Schaumberg)--OF COUNSEL
Larry L. Shatzer, II)

APPENDIX B

**ADDITIONAL INFORMATION SUBMITTED BY AKZO
CONCERNING SPECIFIC END-USE APPLICATIONS
AND
DUPONT'S DISCUSSION OF THE ADVANTAGES OF KEVLAR®
VIS-A-VIS THE
ADVANTAGES OF THE ALTERNATIVE FIBERS**

PPD-T Aramid Fiber: Major end-use applications and substitute products

END USE	FORM	FUNCTION OF ARAMID FIBER IN SPECIFIC APPLICATION	SUBSTITUTE PRODUCTS
GASKETS AND FRICTION MATERIALS	Pulp (wet and dry) and sometimes staple		Asbestos, acrylic pulp, carbon fibers, fiberglass, and semi-metallics.
Asbestos Replacement in Gaskets	Dry pulp, wet pulp	Processing aid, <u>i.e.</u> , green strength. In the end product, the fiber delivers strength, creep resistance, thermal and chemical stability.	Dry pulp - carbon wet pulp - multi-layered steel (MLS).
Packings	Filament yarn	Strength, chemical resistance, abrasive resistance.	Goretex.
Brake Linings	Dry pulp, staple ¹	Processing aid in manufacturing pre-form.	Acrylic pulp.
Clutch Facings	Staple	Spun yarn is used to get high (tangential) strength into facings.	Fiberglass.

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¹ Use of staple has decreased dramatically. [

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END USE	FORM	FUNCTION OF ARAMID FIBER IN SPECIFIC APPLICATION	SUBSTITUTE PRODUCTS
RUBBER REINFORCEMENT	Standard-modulus filament yarn, staple, and pulp		Steel, high-tenacity rayon, polyester, nylon, glass, fiberglass, Nomex [®] , Technora [®] , and cotton.
Radial Tires	Yarn	Stable ply strength, carcass strength.	Steel, polyester, glass.
	Staple	Abrasion resistance.	Nylon, cotton.
Radiator Hoses	Yarn	Strength.	Rayon, polyester, nylon, Technora [®] .
Fan Belts	Yarn	Strength member.	Polyester, glass, Technora [®] .
	Staple	Abrasion resistance, reinforce rubber.	Nylon, Technora [®] , cotton, polyester.
Conveyor Belts	Yarn	Strength.	Steel, polyester, nylon.

END USE	FORM	FUNCTION OF ARAMID FIBER IN SPECIFIC APPLICATION	SUBSTITUTE PRODUCTS
ROPES AND CABLES	Standard-modulus filament yarn		Steel, high-tenacity rayon, polyester, nylon, fiberglass, Technora [®] , and Spectra [®] .
Mooring Lines	Yarn	Strength and modulus.	Spectra [®] , polyester and steel.
Anchor and Pennant Lines	Yarn		
Deep-Sea Cables	Yarn		
Load-Bearing Cables on Cranes and Derricks	Yarn		
Fiber Optic Cables	Yarn	Strength member, modulus.	Glass in dielectrical cables; steel in non-dielectric cables.

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END USE	FORM	FUNCTION OF ARAMID FIBER IN SPECIFIC APPLICATION	SUBSTITUTE PRODUCTS
ADVANCED COMPOSITE MATERIALS	Staple and high-modulus filament yarn		High-strength fiberglass and carbon fibers.
Aircraft/Aerospace	High modulus yarn	Structural (internal and external) parts for weight, rigidity, impact, low elongation.	Carbon and/or glass.
	Staple	Non-structural (internal only) for acoustic properties in sandwich form as felt.	Glass wool; Nomex®
Marine	High modulus yarn	Structural woven parts for modulus, impact, low elongation and weight.	Glass and/or carbon.
Recreational	High modulus yarn	Structural woven parts for modulus, impact, low elongation, weight.	Glass.
Automotive Industries	High modulus yarn (development only)	Structural, impact resistance, weight, modulus.	Glass.

END USE	FORM	FUNCTION OF ARAMID FIBER IN SPECIFIC APPLICATION	SUBSTITUTE PRODUCTS
PROTECTIVE APPAREL AND FABRICS	Standard-modulus filament yarn, staple, and non-wovens		Spectra [®] , Spectra shield [®] , Dyneema [®] , Nomex [®] , Technora [®] , fiberglass, high-density polyethylene, PBI, Kermel [®] , and Vectran [®] .
Bullet-Resistant Vests and Helmets	Yarn	Energy absorption to stop penetration of projectile and reduce trauma to user.	Spectra shield [®] .
Cut-Resistant Gloves	Staple	Staple fiber used to manufacture spun-yarn. Fiber resists cutting action of sharp metal edges, etc.	PBI, Nomex [®] .
Thermal Apparel	Staple	Fabrics manufactured from spun-yarn give high thermal insulation. This is achieved partly by entrapping pockets of air.	PBI, Nomex [®] , Kermel [®] .
Thermal Barriers	Non-woven products	Heat insulation and flame resistance.	PBI, Nomex [®] , Kermel [®] and fiberglass.

B-7

Source: Akzo's posthearing brief, exh. A.

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APPENDIX C
SUMMARY DATA CONCERNING THE U.S. MARKET
FOR PPD-T ARAMID FIBER

Table C-1
PPD-T aramid fiber: Summary data concerning the U.S. market, 1991-93

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APPENDIX D

**CERTAIN DATA CONCERNING YARN, STAPLE, PULP, NONWOVENS,
EXPORT POLYMER, AND CHEMICAL INGREDIENTS**

Table D-1

PPD-T aramid fiber in yarn form: Summary data concerning the U.S. market, 1991-93

* * * * *

Table D-2

PPD-T aramid fiber in yarn form: Summary data concerning the Netherlands' capacity, production, capacity utilization, end-of-period inventories, and shipments, 1991-93 and projected 1994-95

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Table D-3

PPD-T aramid fiber in staple form: Summary data concerning the U.S. market, 1991-93

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Table D-4

PPD-T aramid fiber in staple form: Summary data concerning the Netherlands' capacity, production, capacity utilization, end-of-period inventories, and shipments, 1991-93 and projected 1994-95

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Table D-5

PPD-T aramid fiber in pulp form: Summary data concerning the U.S. market, 1991-93

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Table D-6

PPD-T aramid fiber in pulp form: Summary data concerning the Netherlands' capacity, production, capacity utilization, end-of-period inventories, and shipments, 1991-93 and projected 1994-95

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Table D-7

Nonwovens produced from PPD-T aramid fiber: Summary data concerning the U.S. market, 1991-93

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Table D-8

Summary data concerning DuPont's PPD-T aramid polymer transferred to foreign affiliates, 1991-93

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Table D-9
Employment data concerning DuPont's chemical ingredients plants, 1991-93

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APPENDIX E

**INFORMATION CONCERNING U.S. PPD-T ARAMID
STAPLE AND PULP SUBCONTRACTOR OPERATIONS**

U.S. Subcontractors' Data

The Commission requested information from DuPont's four subcontractors concerning these firms' U.S. operations. Complete responses were received from *** (table E-1), Barnet (table E-2), and H&V (table E-3). Limited data were received from Minifibers (table E-4).¹

Table E-1

Data received from *** on its contract operations involved in converting PPD-T aramid *** into ***, 1991-93

* * * * *

Table E-2

Data received from Barnet on its contract operations involved in converting PPD-T aramid yarn into staple (finished product and feedstock for nonwovens and pulp), 1991-93

* * * * *

Table E-3

Data received from H&V on its contract operations involved in converting PPD-T aramid staple into wet pulp (finished product and feedstock for dry pulp), 1991-93

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Table E-4

Data received from Minifibers on its contract operations involved in converting PPD-T aramid wet pulp into dry pulp (finished product), 1991-93

* * * * *

U.S. Subcontractors' Positions on the Petition

In response to the Commission's question concerning the firms' position on the petition, the responses were as follows:

* * * * *

¹ ***.

Barnet

* * * * *

H&V

Oppose. ***.

Minifibers

* * * * *

U.S. Subcontractors' Capital and Investment

The Commission requested that DuPont's U.S. subcontractors describe any actual or anticipated negative effects of imports of PPD-T aramid fiber from the Netherlands on their growth, investment, ability to raise capital, or existing development and production efforts, including efforts to develop a derivative or more advanced version of the product. The Commission also asked these firms to report the influence of such imports on their scale of capital investments undertaken. The responses of the subcontractors are as follows:

* * * * *

Barnet

* * * * *

H&V

* * * * *

Minifibers

* * * * *

APPENDIX F

**DUPONT'S FOREIGN OPERATIONS
PRODUCING PPD-T ARAMID FIBER**

The Commission requested capacity, inventory, production, and shipment data concerning DuPont's foreign affiliate operations producing PPD-T aramid fiber. These data are presented separately for DuPont's Northern Ireland facility (table F-1) and for its Japanese joint venture facility (table F-2). The Commission also requested from DuPont a discussion of the source of its foreign operations' equipment, technology, and capital, specifically addressing whether any equipment was relocated from the U.S. establishment and whether any royalties or other payments were made by the foreign operations. DuPont's response is presented below.

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Table F-1
Data concerning DuPont's Northern Ireland PPD-T aramid fiber spinning facility, 1991-93

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Table F-2
Data concerning DuPont's Japanese joint venture PPD-T aramid fiber spinning facility, 1991-93

* * * * *

APPENDIX G
APPARENT U.S. CONSUMPTION, BY END USES

Table G-1

PPD-T aramid fiber: U.S. shipments of U.S. product, U.S. shipments of imported product, apparent U.S. consumption, and shares of apparent U.S. consumption, by end uses, 1991-93

* * * * *

APPENDIX H

**COST OF PRODUCTION FOR PPD-T ARAMID FIBER
IN THE FORM OF STAPLE, PULP, AND NONWOVENS**

Table H-1

Costs of production of DuPont on its production of PPD-T aramid fiber in the form of staple, fiscal years 1991-93

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Table H-2

Costs of production of DuPont on its production of PPD-T aramid fiber in the form of pulp, fiscal years 1991-93

* * * * *

Table H-3

Costs of production of DuPont on its production of PPD-T aramid fiber in the form of nonwovens, fiscal years 1991-93

* * * * *

APPENDIX J
PRICING OF ALTERNATIVE FIBERS

Table J-1
Prices of PPD-T aramid fiber and alternative fibers, by end-use market, fiber type, and year,
1988-94

* * * * *

APPENDIX K
U.S. PRODUCER'S AND IMPORTER'S PRICE TABLES

Table K-1

Delivered selling prices and quantities to the two largest purchasers and to all purchasers of U.S.-produced and imported PPD-T aramid fiber product 1, by quarters, Jan. 1991-Dec. 1993

* * * * *

Table K-2

Delivered selling prices and quantities to the two largest purchasers and to all purchasers of U.S.-produced and imported PPD-T aramid fiber product 2, by quarters, Jan. 1991-Dec. 1993

* * * * *

Table K-3

Delivered selling prices and quantities to the two largest purchasers and to all purchasers of U.S.-produced and imported PPD-T aramid fiber product 3, by quarters, Jan. 1991-Dec. 1993

* * * * *

Table K-4

Delivered selling prices and quantities to the two largest purchasers and to all purchasers of U.S.-produced and imported PPD-T aramid fiber product 4, by quarters, Jan. 1991-Dec. 1993

* * * * *

Table K-5

Delivered selling prices and quantities to the two largest purchasers and to all purchasers of U.S.-produced and imported PPD-T aramid fiber product 5, by quarters, Jan. 1991-Dec. 1993

* * * * *

Table K-6

Delivered selling prices and quantities to the two largest purchasers and to all purchasers of U.S.-produced and imported PPD-T aramid fiber product 6, by quarters, Jan. 1991-Dec. 1993

* * * * *

Table K-7

Delivered selling prices and quantities to the two largest purchasers and to all purchasers of U.S.-produced and imported PPD-T aramid fiber product 7, by quarters, Jan. 1991-Dec. 1993

* * * * *

Table K-8

Delivered selling prices and quantities to the two largest purchasers and to all purchasers of U.S.-produced and imported PPD-T aramid fiber product 8, by quarters, Jan. 1991-Dec. 1993

* * * * *

Table K-9

Delivered selling prices and quantities to the two largest purchasers and to all purchasers of U.S.-produced and imported PPD-T aramid fiber product 9, by quarters, Jan. 1991-Dec. 1993

* * * * *

Table K-10

Delivered selling prices and quantities to the two largest purchasers and to all purchasers of U.S.-produced PPD-T aramid fiber product 10, by quarters, Jan. 1991-Dec. 1993

* * * * *

Table K-11

Delivered selling prices and quantities to the two largest purchasers and to all purchasers of U.S.-produced and imported PPD-T aramid fiber product 11, by quarters, Jan. 1991-Dec. 1993

* * * * *

